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BRAITHWAITE'S RETROSPECT.

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VOL. XCII. JULY-DECEMBER, 1885.

*Letters for the Editor to be addressed*

DR. BRAITHWAITE, Little Woodhouse, Leeds.

*Parcels of Books, &c., to*

Messrs. SIMPKIN, MARSHALL & Co., London.



THE

# RETROSPECT OF MEDICINE:

BEING

A HALF-YEARLY JOURNAL

CONTAINING A RETROSPECTIVE VIEW OF EVERY DISCOVERY AND  
PRACTICAL IMPROVEMENT IN THE MEDICAL SCIENCES.

EDITED BY

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*VOL. XCII. JULY—DECEMBER 1885.*

LONDON:

SIMPKIN, MARSHALL, AND CO.

EDINBURGH: OLIVER & BOYD. DUBLIN: HODGES, FIGGIS & CO.  
AND FANNIN & CO.

MDCCCLXXXVI.



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## SYNOPSIS.

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AN ABSTRACT OF THE MOST PRACTICAL ARTICLES IN THIS VOLUME, WITH OTHER SHORT ARTICLES FROM THE MEDICAL JOURNALS, SHOWING THE MOST IMPORTANT INDICATIONS OF TREATMENT PUBLISHED BY DIFFERENT WRITERS DURING THE HALF-YEAR. ARRANGED ALPHABETICALLY.

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### AFFECTIONS OF THE SYSTEM GENERALLY.

ACUTE RHEUMATISM.—*Rules for Treatment by Salicylic Acid.*—

(1) The true salicylic acid obtained from the vegetable kingdom must alone be employed. If you have to give large doses, avoid giving the artificial product obtained from carbolic acid, however much it may have been dialysed and purified. An impure acid will very quickly produce symptoms closely resembling delirium tremens. (2) Give the acid without any alkali or base. A very good form is to mix 100 grains with 15 of acacia powder and a little mucilage. Allow the mass to stand and harden, and then divide into 30 pills. (3) Place the patient fully under the influence of the drug—that is, let him have sufficient to produce cerebral disturbance—i.e., buzzing in the ears or headache, or slight deafness; with the development of these symptoms the temperature and the pain in the joints will begin to decline. To an adult I generally administer three doses of 20 grains (six pills) at intervals of an hour, and if the head remains unaffected, a fourth dose at the end of another hour; and then repeat the 20 grains every four hours until the physiological effect of the remedy shows itself. In the majority of cases from 80 to 100 grains are enough. In severe cases 140 to 150 may be required. Afterwards about 80 grains a day are sufficient, and as the temperature declines smaller quantities will develop their physiological effects, 60 or even 50 grains being then sufficient to produce cerebral disturbance. It would appear that as long as the rheumatic poison is circulating in the system, the physiological effect—that is, the effect it produces in the healthy organism—does not show itself; acting as an antidote, the greater the amount of poison, the larger must be the dose of the remedy; but as soon as the formation of the *materies morbi* is stopped, then the excess of the remedy acts as it would in the healthy organism and its peculiar physiological effects are developed. It is a very striking illustration of the difference between the therapeutical effect of a remedy and its physiological action. (4) Give the patient from 40 to 80 grains daily for ten days after all pain and pyrexia have passed away. (5) Let the patient's diet consist

entirely of milk and farinaceous food for at least a week after the evening temperature has been normal. On the other hand, if the patient has meat and soup, you may look forward with fair probability to a relapse. (6) Take care to maintain a daily and complete action of the bowels. Calomel is the best purgative, from 2 to 5 grains at night, followed in the morning, if necessary, with a saline draught. This is the most important adjuvant to the action of salicylic acid. The benefits resulting generally from the so-called purgative plan of treatment have always been recognised by the older physicians as striking and satisfactory. (7) Let the patient be enveloped in a light blanket, and with no more bedclothes than are sufficient to keep him from feeling cold. The object of the treatment now is to cool the patient, not, as in former times, to sweat the poison out of him, and the cooler he is kept the sooner will the temperature be lowered.—These are the seven rules upon which I have acted. I have given the true salicylic acid where there have been both aortic and mitral mischief; and I have also given it in rheumatism complicated with pericarditis, and as yet I have seen no bad result from it. Of course in cases of pericarditis, accompanied with delirium, the use of the remedy requires caution; you cannot tell when the system is saturated with the remedy; and you must therefore trust to smaller doses and other means for controlling the disease. Further, if pericarditis or endocarditis, pneumonia, or pleurisy have been developed, the remedy is powerless over the mischief which is done; it will neutralise the poison producing the mischief so as to stop its extension, but the inflammatory exudations will undergo their usual changes unabbreviated in their course. (Dr. W. P. Latham, Cambridge, Lancet, June 20.)

**ANTIPYRIN.**—It is important to bear in mind that thus far our experience only justifies us in commending it as a very certain and apparently a safe means of reducing temperature. We have as yet no statistics which enable us to compare its merits in this respect with the application of cold. Whether the antipyresis produced in this way will reduce the mortality of typhoid fever, as Brand, Liebermeister, and others claim that the antipyresis produced by cold has done, and whether it will act as efficiently as cold in pure thermic fever, are questions that remain to be determined by more extended experience. The only conclusions which can be safely drawn are:—(1) That it is an efficient means of reducing temperature. (2) That it is apparently a safe means of reducing temperature, if prudently administered and carefully watched. (3) That while it does not, so far as our present experience demonstrates, markedly modify or abort the diseases in which it has been administered, it does manifestly contribute to the comfort of those who are suffering from high temperature. (4) That its administration is occasionally accom-



panied with unpleasant effects, which more than counterbalance the benefits to be derived from the reduction of temperature. (5) That a more extended experience in its use and methods of administration may so formulate the conditions for which it is especially adapted, that it will prove a precious contribution to the resources of therapeutics. (Dr. W. H. Draper, p. 129.)

*Therapeutic Uses of Antipyrin.*—(1) In all febrile diseases—not the simple fever, but the exaggeration of the fever, *i.e.*, hyperpyresis—varying in each patient, is the indication for the use of apyretic medication. (2) In the severer febrile diseases, such as typhoid fever, in tubercular patients, in pulmonary phthisis, the persistence of the fever constitutes a new indication. (3) To avoid the production of excessive and exhausting perspiration, and to avoid reducing the patient to a condition of adynamia, which may result from abuse of the drug, it should be administered in small doses. (4) Finally, in apyretic medication, only a physiological and clinical result should be sought, that is, no effort should be made to produce a normal temperature in a disease of which pyrexia is a special characteristic.—The drug may be administered per rectum by injection or suppository. In the latter form it is not efficacious as an antipyretic, but of great service in some cases of hemorrhoidal flux. The most desirable method of administration, however, is by mouth. The antipyrin should be dissolved in a little sweetened water, flavoured with aqua menth. pip. or other aromatic, with which a little red wine may be advantageously incorporated. The dose is from 8 to 12 grains in phthisis; 15 to 45 grains in typhoid fever, and other diseases in which great elevation of temperature is characteristic. No more than 15 grains should be given at a time, and the doses should be at intervals of about one hour. (Dr. Leon Arduin, Bull. Gén. de Thérap., March 30.)

ASIATIC CHOLERA.—*Treatment.*—Carbonate of ammonia in full and continuous doses, with sulphuric and nitric ether in camphor mixture, administered in the way alcoholic stimulants are given, combined with hot frictions and sinapisms, to restore, if possible, the capillary circulation, have proved, in my experience and practice, the most successful line of treatment, and one which cannot be charged with interfering with the natural efforts towards recovery; for in India I have seen, on the roadsides leading to Juggernaut, numbers who have recovered, and have started to continue their journey, without either treatment or care of any kind whatever, after having been left by their companions as dead, or to die. Iced drinks, in my opinion, should never be given, for the body is cold enough from the specific action of the cholera-influence on the system; and when thirst, a constant symptom, is complained of, water at the temperature of

the air should be given; and, for the violent retching and ineffectual attempts to vomit, copious draughts of tepid water. All the patients who have recovered, when questioned, alluded gratefully to the quenching of the thirst, and it seems hard to suppose that this is not an indication of the natural line of treatment. (Dr. R. Pringle, p. 121.)

*Nursing of Cholera Cases.*—The measure of measures, when the disease is present in a locality, is to allay the fear caused by the too generally accepted belief that cholera, like small-pox, is both infectious and contagious. Let this belief be once thoroughly shaken, and we shall then have the most powerful agent possible to aid in nursing the cases of the disease. The only possible source of danger to nurses or attendants arises from the risk of over-work, and consequent exhaustion, and the possibility of thus suffering from diarrhoea or dysentery; in which state of health they should neither nurse nor attend on cases of cholera; as I am convinced, from what I have seen and heard, that, if nurses or attendants be seized with the disease while carrying on their duties, it will be found in most cases to be due to this; and this circumstance should be judiciously communicated to all whose duties require them to attend on cases of cholera. (Dr. R. Pringle, Surg.-Major, p. 124.)

*DISINFECTION OF ROOMS.*—The usual means employed for the disinfection of rooms after having been occupied by patients suffering from infectious diseases seem to me, as well as to the majority of medical men, to be quite insufficient. It may be advantageous therefore to publish the means of disinfection which I have employed for nearly twenty years. I shall relate first the way in which I hit upon fumigation by sublimate as a means of disinfection. When I was in practice in Hanau, there appeared suddenly in one of my rooms a great number of bugs. I complained of the pest to my brother-in-law. He assured me that he could get rid of these disagreeable beasts in a very short time without making any alteration in the room. He fumigated it with sublimate. Forthwith all the insects, both bugs and flies, were found dead. This effect made me consider that an attempt should be made to destroy in the same way the infecting matter of infectious diseases. I soon had an opportunity of fumigating rooms in which children, suffering from measles and scarlet fever, had been treated, and in the hospital where cases of erysipelas and pyæmia occurred I used the same means. I have been very much pleased with the results. I have repeatedly seen in my own family that in rooms where one or other of my children had been treated for some infectious disease there was no further outbreak. I was satisfied too with the results of fumigation in the hospital. The method is very



simple. After closely shutting the windows of the infected room, the person who carries out the disinfection sprinkles about fifty to sixty grammes of the sublimate on a coal-shovel over a glowing firepan, then quickly leaves the room and locks the door. Any chinks must be stopped beforehand. The sublimate evaporates quickly, and the room is now left exposed to the fumes for three or four hours. The door is then opened, and in opening the window care must be taken to hold a cloth over the nose and mouth. The door is immediately locked again, and the room is aired for several hours, the windows being left open. The windows are once again shut, and the room is fumigated in the usual way with sulphur in order to render harmless the mercury which is still present. By this proceeding no harm from the mercurial fumes has ever been observed to befall either the person who carries out the disinfection, or the inhabitants of the room, which may be occupied after being cleansed and thoroughly dried again. Whether this proceeding is really of the value that I assign to it can easily be proved by experiment. (Prof. König, Gottingen, translated by Dr. J. F. Ruxton, Medical Chronicle, June, p. 258.)

**EXOPHTHALMIC GOITRE.**—*Electricity.*—We are possessed of a truly efficacious method of treatment in electricity, and it is carried out in the following way:—1. The positive electrode, with a large rheophore, is applied to the posterior and inferior part of the neck, and the negative electrode, with an olive-shaped rheophore, is strongly pressed upon the region of the carotid artery, under the angle of the lower jaw. It is found that the effects of faradisation are much more telling than those of galvanism. In some cases there is an immediate change in the colour of the cheek upon the faradised side, while the temperature there is lowered, and the feeling of orbital tension either diminishes or disappears. The two carotid regions are successively faradised at the same sitting. 2. The negative electrode is then passed lightly over the eyelids, so as to cause the contraction of the orbicular muscles. 3. The thyroid tumour is faradised, and the sterno-hyoid and thyroid muscles, which should be made to contract. 4. Lastly, the precordial region is galvanised. The large rheophore connected with the negative pole being retained at the back of the neck as before, the positive pole, fitted with a large flat intercostal rheophore, is applied to the inner part of the third interspace. The force of the current should vary from 50 to 70 dix millièmes (ampère). With this last part of the operation the violence of the heart-beats diminishes at once, even if their frequency remains the same; but it is always the most difficult part of the treatment to permanently modify the heart's action. The whole sitting should occupy ten or fifteen minutes, equally distributed over the carotid, thyroid, and cardiac regions.

It should be repeated every alternate day. At first merely transitory, the effect lasts longer after each operation, and by degrees it becomes permanent. The exophthalmos and the goitre are the earliest symptoms to yield. The complete cure required six months' treatment at least. It is only exceptional to find cases which resist the treatment. (M. Charcot, translated by Dr. T. C. Railton, *Medical Chronicle*, May, p. 104.)

*Thyroidectomy.*—My personal experience of thyroidectomy is limited to twelve cases. From these I would make the following deductions:—1. The operation is a grave one, and should not be lightly undertaken, especially as our knowledge of the exact functions of the gland are at present somewhat hazy. 2. It is better to remove one lobe at a time rather than to attempt excision of the whole gland. It is probable that such a procedure will sufficiently relieve all urgent symptoms. 3. That if a capsule exists it should be opened in the median line, and that the angles of the gland should be firmly secured before the goitre is enucleated; that it is best to first ligature the angle of the gland containing the superior thyroid artery, next the isthmus, and to take away the gland from above downwards, ligature of the inferior thyroid angle being one of the final steps of the operation. 4. That stout carbolised silk is the most reliable material for securing the pedicles. 5. That antiseptic dressings in some form should be employed. 6. That the success of the operation will probably increase with the experience of the operator. (Mr. T. F. Chavasse, *Birmingham, Lancet*, July 18, p. 102).

*SCARLET FEVER.*—It has been my fortune, in a somewhat limited experience, to see several cases of uræmic convulsions; all have yielded in quite an unexpected way to *prompt, energetic, and fearless* purging, accompanied by thoroughly carried out hot-blanket bathing—one drop of croton oil, with the rapid envelopment of the patient's body in a blanket wrung out of water which the attendant's hands cannot bear without considerable pain and discomfort. I think I can recall about a dozen cases, all successfully treated in this way. I may say that the treatment of scarlatina in the fever wards of the Belfast Royal Hospital, though independently carried out by four different physicians, is generally based upon the symptomatic or expectant plan. The patient is kept in bed in most cases for three or four weeks; gets fever diet No. 1, which practically means as much milk as he chooses to drink; generally, as a point of routine, he gets about 15 minims of dilute muriatic acid in 2 oz. water every four hours, and his throat is sometimes locally treated and sometimes not. His symptoms and sequelæ are treated, as far as I know, upon general principles—some give quinine, peroxide of hydrogen, iron, and salicylates; seldom is there much sponging, and, even when the temperature is very high, seldom is the pack



employed; occasionally inunction is commenced early, generally it is used at some stage or other; the milk diet is not changed till the fever has disappeared for a considerable time. As far as I know, no specific line of treatment is rigidly adhered to by my colleagues or myself. Stimulants, ice, purgatives, warm or tepid baths are employed frequently for cleansing purposes, and all complications arising are dealt with upon such rational grounds as one would expect in treating ordinary fevers or acute diseases. (Dr. Wm. Whitla, p. 132.)

**TYPHUS FEVER.**—It is of paramount importance to the physician in the treatment of typhus to be intimately acquainted with the natural history of the disease. In this way only can he hope successfully to exercise his great function, and “obviate the tendency to death” of his patient. A study of the temperature and pulse-rate curves of typhus teaches us that the disease is normally accompanied by a very high degree of pyrexia and only moderate rapidity of pulse; that unfavourable cases with a tendency to death show, as a rule, these conditions reversed—a moderate pyrexia and a rapid pulse-rate—and in their course a falling temperature and rising pulse-rate; that a fall in the pulse-rate is always favourable, and that this sign does not lose its favourable import if the pyrexia is maintained; that the cases of typhus fever which give us least anxiety in regard to prognosis from temperature and pulse are those which are characterised by high temperature,  $103.5^{\circ}$  to  $105^{\circ}$  F. and a moderate pulse-rate, 100 to 116; and that the pulse becoming irregular and intermittent, and so destroying the prognostic significance of mere pulse-rate, is to be regarded as nearly equivalent to undue rapidity of the same. The therapeutic indications I would draw are the following:—The pyrexia of typhus very seldom calls for interference. Only when the pulse-rate is also excessive can antipyretic treatment be expected to be in any way beneficial. The weakness of the heart demands extreme caution in the use of cold bathing, and the severe nervous symptoms in the use of most antipyretic drugs, as quinine and salicylate of soda. One of the strongest “tendencies to death” being on the side of the circulatory system, probably accounts for the result of experience that good nursing, the abundant supply of nourishment, and the free administration of alcohol, form the most successful treatment of severe typhus. In mild cases stimulants are unnecessary. The management of urgent symptoms, as sleeplessness, of pulmonary engorgement, and of complications, has no place here. In conclusion, I would only say that, reliable as I believe pulse and temperature indications to be in the prognosis of typhus fever, I am fully aware of the necessity, in all cases, of taking a wide view of the general symptoms and circumstances which are present. (Dr. Graham Steell, *Med. Chronicle*, March, p. 504.)

## AFFECTIONS OF THE NERVOUS SYSTEM.

**ALCOHOLIC PARALYSIS.**—Dr. Hun comments as follows upon two cases of alcoholic paralysis recently under his care:—We find—First, Sensory disturbances in the form of neuralgic pains and paræsthesiæ, pain on pressure over the muscles and on passive motions, a mixture of cutaneous hyperæsthesia and anæsthesia, and retardation of the conduction of pain. Second, Motor disturbances in the form of muscular weakness, which rapidly increases in intensity and is accompanied by muscular atrophy without fibrillar contraction and by the electrical reaction of degeneration, or at least an approach to this reaction. And, third, Ataxic disturbances which are associated with a loss of the tendon reflexes, while the cutaneous reflexes, especially the plantar reflex, are increased. All these disturbances are symmetrically distributed. They appear first and most decidedly in the legs, and then extend to the arms, where they are less severe. Associated with these symptoms is a greater or less degree of mental weakness and derangement. Such a combination of sensory disturbances, absence of patellar reflex, ataxia, muscular paralysis, and muscular atrophy, is very uncommon, and there can be but little doubt that these two cases, which possess these and other characters in common, are due to the same lesion. There is, however, a great difference in the severity of the symptoms in the two cases. In the first case the initial sensory disturbances and the cutaneous and muscular hyperæsthesia were only slightly marked, the pain on passive motion was entirely absent, and there was only a slight degree of muscular atrophy. In the second case, not only were all these symptoms extremely well marked, but in addition there was retardation of the conduction of pain, and the disease terminated fatally after the muscular atrophy had become so extreme that the patient was reduced to the condition of the so-called “living skeletons.” (Dr. Hun, *American Jour. of Med. Science.*)

[The concluding portion of Dr. Hun's very valuable paper will be found at p. 155. Important papers on this subject will also be found at pp. 128 and 130 of the last vol. of *The Retrospect.*]

**CHOREA.**—*Chloral.*—M. Joffroy, in a lecture upon chorea, states that in 1879 he administered the drug in two very severe cases in gramme doses every quarter of an hour until sleep was procured, the same dose being repeated whenever the child awoke. In that way he procured for the patient a continuous sleep, broken only twice in the 24 hours for the taking of food. The chloral was omitted in the one case at the end of four days, in the other at the end of five days, “not daring to prolong this deep and continuous sleep any longer.” Marked improvement followed this somewhat heroic measure. His usual practice is



to give chloral three times a day, and to continue it for a fortnight, a month, six weeks, or two months, according to circumstances—indeed, until a cure is effected. He has had no ill results from this treatment, and only occasionally has he observed a fugacious roseola or erythema, which lasted for 24 hours, and disappeared without discontinuing the drug. The object of this treatment is to procure as much sleep as possible, and the dose is of course proportioned to the age of the patient. Above the age of ten the daily dose is four grammes (*i.e.*, 60 grains) taken after meals, one gramme in the morning, one at mid-day, and two in the evening. Between the ages of six and eight the total amount must not exceed three grammes daily, and the quantity administered must be graduated so that the largest (evening) dose should produce sleep within a quarter of an hour; and, as stated, it is continued until the choreic symptoms have disappeared. By this method he claims not only to prevent the serious complications that arise in the severer cases, but to appreciably diminish the duration of the affection. Curative as M. Joffroy believes chloral to be in its action, there are, he admits, some cases which resist its influence. These are severe and violent cases, and for them he employs the wet pack in addition to the sedative drug. The body being enwrapped in cloths soaked in cold water, vigorous rubbing is employed from head to foot; and when, after one or two minutes, reaction sets in, the patient, still enclosed in the pack, is completely enveloped in wool and left there for half an hour. This measure is always followed by a period of repose, the child generally passing into a deep sleep, on awaking from which the choreic movements are much diminished. The same treatment is applicable to all cases. (M. Joffroy, *Lancet*, July 11, p. 79.)

*Chorea.*—*Hydrotherapeutic Treatment.*—In a lecture in *Le Progrès Médical* M. Gilbert says there are cases of chorea in which chloral does not act efficiently. In those severe cases he has recourse to hydrotherapeutics. This treatment may be used in slight cases, but its true indication is in the intense forms, sometimes accompanied by accessions of fever, and even when there is a danger of a fatal termination. He gives a wet sheet night and morning. The sheet is soaked in very cold water, well-water being preferable, because of its equable temperature, then slightly wrung and spread over a mattress protected by an oil-cloth. The child is wrapped in this, and briskly rubbed for one or two minutes. As soon as reaction has set in and heat has returned, the child, still enveloped in the wet sheet, is rolled in several folds of blankets and put into bed, and allowed to lie and steam thus for half an hour. The child usually sleeps, and is less agitated after waking. (M. Gilbert, *Edinburgh Med. Journal*, Aug., p. 183.)

**COMA.**—*A Pathognomonic Sign of.*—There is a test for coma which is absolutely pathognomonic. This statement must be understood to exclude the pre-comatose stages of coma, and to apply to those stages only in which there is what is ordinarily termed “insensibility”—in which the patient is incapable of standing, or sitting, or answering questions; although it occurs in very light coma, and sometimes before the conjunctivæ become insensitive. The test to which I refer is one to which attention was drawn—as a symptom—both by Dr. Warner and myself, in the *British Medical Journal*, about eight years ago. It is the movement of the two eyes independently of one another. About the time that the conjunctiva becomes insensitive, the eyes are noticed to have a peculiar unintelligent “far away” expression. If examined it is found that this expression is due to the absence of any convergence to their axes. They are quite parallel. The next thing is, that they begin to move independently. Usually one rolls out while the other remains still. Granting the absence of previous strabismus, actual divergence of the eyes is absolutely certain evidence of coma. There are people who can move one eye through a small definite arc while the other remains fixed, but no one can voluntarily cause his eyes to diverge; and in coma the eyes, if watched, will *always* be seen to diverge. They do not always begin by diverging; they may converge; they may both move in the same direction—upwards or downwards, to right or to left—but they will not both move at the same rate and to the same extent. The deeper the coma becomes, the more independent become the movements of the eyes. The difference in their direction is often astonishing. One may be directed out and up, and the other out and down. One may be directed downwards, while the other is hidden beneath the upper lid. If the patient can be momentarily roused by severe stimulation, the eyes momentarily resume their parallelism; as he subsides into coma, so they fall back into independence. It matters not what the cause of the coma may be—whether alcohol, ether, chloroform, uræmia, hemorrhage, a previous epileptic fit, a blow on the head, meningitis, cerebral tumour, or what not—if there is coma the eyes move independently; if the eyes move independantly there is coma. I am unable to say whether the same thing occurs in normal sleep, but it very likely does occur, sleep being physiological coma. (Charles Mercier, M.B., *Medical Times*, March 28, p. 412.)

**CUTANEOUS AND DEEP REFLEXES.**—The following conclusions upon cutaneous and deep reflexes are based upon a series of observations upon 239 persons admitted to the Nervous and Renal Service of the Boston and City Hospital during the latter half of 1883.—Absence of the plantar or cremaster reflex is usually pathological, depending upon a direct lesion of the reflex



arc or some cerebral disturbance. Absence of the other cutaneous reflexes is not necessarily pathological. Absence of the patellar reflex may be due to cerebral disturbance, especially in alcoholic subjects. Ankle and patellar clonus are pathological. The deep reflexes of the upper extremity are of frequent occurrence, and have no special pathological significance. The costal reflex is found in the majority of cases without general exaggeration of the reflexes, and with no signs of phthisis, incipient or advanced. When the reflexes differ on the two sides, though it usually signifies some unilateral disease of the nervous system, it is not always pathological. Finally, these observations have led me to emphasize the value of testing all the reflexes, cutaneous and deep, in the upper extremity as well as in the lower, and on the two sides of the body, in examining patients with nervous diseases. (Dr. P. C. Knapp, of Harvard, *American Journal of Medical Sciences*, April, p. 449.)

**DIABETIC NEURALGIA.**—The occurrence of neuralgia in diabetic subjects, and depending apparently upon the diabetic diathesis for its existence, has been noticed by several writers within the last two or three years. Cornillon has collected the histories of 22 instances of this association of neuralgia with diabetes; eight of these cases, including two contributed by himself, have been very fully described; the histories of the other cases are more meagre. The characteristics of diabetic neuralgia, judging from the description of these 22 cases, are well marked, and render the diagnosis of the complaint easy. Such neuralgias are distinguished by their spontaneity, no cause, either immediate or remote, except the glycosuria, being discoverable; by their intensity, hardly paralleled in any other variety of pain; by their tendency to a symmetrical development (noted in 18 out of the 22 cases); and by the obstinacy with which they resist any form of treatment except that addressed to the relief of the causal condition—the diabetes itself. They show a tendency to attack the regions supplied by the sciatic nerve, although the face and other parts of the body are also occasionally affected. They are associated with marked tenderness to pressure over the course of the nerve which is the seat of the pain; and motion of the muscles in the vicinity of the nerve, as well as variations of temperature, greatly aggravates the suffering. The causation of this rather infrequent form of neuralgia is still obscure. The author rejects the hypothesis of Rosenstein, that it is due to congestion of the abdominal viscera, on the ground that the latter is so often present without the co-existence of any neuralgic or any diabetic symptoms. The theory that it is due to an excess of sugar in the blood is disproved, he thinks, by the fact that in some of the cases the glycosuria is very moderate, and that, although in some instances the intensity of the

symptoms is proportional to the degree of glycosuria, this is by no means the universal rule. Cornillon's own view, which we believe to be open to the same objections that he urges against these other theories, is that diabetic neuralgia is a manifestation (as he holds diabetes itself to be) of a gouty diathesis, and that such a neuralgia is the direct result of a condition of uricæmia. The decision of this question must, however, undoubtedly await more extended investigation, and the analysis of a greater number of cases than the author has been able to collect. (Dr. Alex. Duane, New York Med. Jour., Aug. 8, p. 163.)

**EPILEPSY.**—Although some apparently authentic cases of cure of this disease are on record, I can only recall seven cases of real or apparent cure of genuine epilepsy, the attacks not having re-appeared in these for from more than one to more than three years, and three of these cases were children. Although, however, the curability of the disease is rare and doubtful, great benefit is certainly to be derived from treatment in most cases. As the result of my observation of the effects of remedies during the last ten years, I regard the bromides (in doses of from 10 to 60 grains 3 or 4 times a day) as certainly the best, the bromide of potassium standing at the head of these. They may be advantageously combined with other drugs, and, on the whole, the best combination for long-continued use consists of bromide of potassium and bromide of sodium of each gr. xv., Fowler's solution of arsenite of potassium  $\mathfrak{m}\text{ii.}$ , conium juice  $\mathfrak{3}\text{ss.}$  (or fluid extract of conium  $\mathfrak{m}\text{iii. ad v.}$ ), made up with syrup of orange and a bitter infusion. Another good combination, also mentioned by Gowers, is bromide of potassium and tr. of digitalis—though it is only especially valuable in cases complicated with weak heart or mitral disease. Hydrobromic acid is efficient in very large doses ( $\mathfrak{3}\text{ss. ad } \mathfrak{3}\text{ss.}$ ), but sometimes irritates the stomach, and so much water has to be given with it that the amount to be swallowed is enormous. Chloral hydrate is of no value when given alone, but with the bromides, in cases uncomplicated with cardiac disease, sometimes makes a useful combination. When the bromides have to be stopped, zinc and the nitrate of silver are the best substitutes, but they can only be relied upon for a short time. The way to treat epilepsy medically, is to simply have a plan of treatment and carry it out over a series of months or years. I would, for instance, first put a patient upon a single bromide, say 10 or 15 grains three times a day, to be increased until a decrease in the number and severity of the paroxysms is produced. I would keep him on this perhaps for a month, and then use the mixed bromides, or some combination of the bromides with other drugs (preferably the bromides, arsenic, and conium prescription), watching the condition of the patient, and, if necessary, putting him on cod-liver oil, quinine, and iron.



With reference to nitrates, bromates, &c., there is probably some chemical or chemico-physiological reason for their inefficiency. The *ites* and *ates* would probably never give as good results as the *ides*. I further agree with Dr. Pepper that close attention should be paid to every point in the daily life of an epileptic—to diet, regimen, rest, and hygiene; but I do not, with my present experience, believe that a genuine case of thoroughly developed epilepsy can be cured, or even be greatly benefited without drugs. Amongst the surgical and external means of treatment which I have successfully used are excision of cicatrix, removal of neuroma, actual cautery, and blistering to the neck or head. I do not use counter-irritation to the scalp, but am a strong believer in the actual cautery, used after Brown-Séquard's method, to the nape of the neck. (Prof. Charles Mills, in Philadelphia Therapeutic Gazette, Med. Times, May 9, p. 588.)

**HYSTERIA.**—*Its Relations to other Functional Diseases.*—The view which I am inclined to hold with respect to hysteria and other functional nervous diseases, and to their mutual relationships, is as follows. There are many functional diseases of the nervous system, among which may be included insanity in many of its forms, epilepsy in its different varieties, chorea, megrim, neuralgia, and hysteria. These are all characterised by groups of symptoms referable to excitement, depression, or aberration of the nervous functions, and mainly of those of the nervous centres. They are severally distinguished clinically by the association of definite groups of symptoms; determined either by the particular part of the nervous system affected, by the special kind of affection which takes place therein, or by the order and mutual relation of events. And we regard them as specific diseases, because experience teaches us that such groups of symptoms are so commonly observed under particular conditions as to show that specific causes must underlie them and determine their concurrence. But the causes of the different affections are for the most part closely related to one another, if not identical; the individual symptoms, which by their modes of aggregation constitute the several diseases as we know them, are common more or less to all of them; many cases occur in which it is difficult, if not impossible to determine satisfactorily in which category they should be placed; and indeed, as it seems to me, there is no substantial line of demarcation between the diseases. If this view be correct, the terms insanity, epilepsy, hysteria, &c., would still imply well-marked, and for the most part permanent, varieties of functional nervous diseases; but the recognition of intermediate types, or the failure to form a definite diagnosis in every case, could not be taken to imply ignorance; and it would follow that many of the limited functional disturbances of which several of my cases furnish examples have little or no claim to be called

hysterical (an adjective which is usually, and perhaps conveniently, applied to them), unless the meaning of the word hysteria be so far extended as to include all functional affections for which no other name has yet been invented. (Dr. J. S. Bristowe, p. 144.)

*Hysterical Seizures.—Diagnosis of, from Epilepsy.*—It had generally been taught that hysterical fits were fundamentally different from epileptic fits, and that there could seldom or never be any real difficulty for a well-informed medical man to distinguish the one form of seizure from the other. It has latterly, however, been admitted that in certain aggravated forms of hysteria fits occur which partake of the special features of the paroxysmal attacks of both affections; and the term “hystero-epilepsy” has been invented to meet the requirements of the case. The classical descriptions of epileptic fits and of hysterical fits are founded on fact; their accuracy is confirmed every day; and it will be admitted that a typical epileptic fit and a typical hysterical fit stand in essential and striking contrast with one another. But it is rather by their collective phenomena than by any one distinctive feature that they must be discriminated. Even the sudden attack of profound unconsciousness which so commonly and characteristically marks the onset of the epileptic seizure, and has been largely regarded as the test and proof of epilepsy, may be present, I think, in affections which have no true claim to be regarded as epileptic; and may certainly be absent from fits whose epileptic nature is unquestionable. Another remarkable feature of epilepsy is the tendency which many epileptics have (sometimes previous to a convulsive seizure, sometimes in place of a fit, but more commonly in immediate succession to a fit, or rather perhaps as the later stage of it) to pass into a dreamy condition of shorter or longer duration; in which the mind is possessed, in one case, by wild frenzy, in another case by apparently a calculating and calm resolve to carry out some atrocious design; in which, in another case, the patient simply acts absurdly or incongruously, or even comports himself much as he would do in health; in which the motor functions obey the mental impulses as in the normal state; but on recovery from which the patient has either no recollection whatever of what happened during his period of mental aberration, or merely that kind of recollection which one has of a dream. (Dr. J. S. Bristowe, *Lancet*, June 20, p. 1113.)

*Hysteria.—Respiratory Symptoms in.*—Besides aphonia, other symptoms referable to the respiratory organs occur in cases of hysteria. I shall not enumerate them, but will briefly speak of two or three. I recollect some 25 years or more ago a nurse, aged 36, was admitted into the hospital under the care of one of



my senior colleagues. She was suffering, not only from aphonia, but from difficulty of breathing. Her medical attendant believed the case to be one of hysteria, but he was not absolutely sure upon that point; and, as her dyspnoea increased in urgency, he judged it advisable to have tracheotomy performed. The operation was done by a surgeon (long since dead), who trans-fixed the trachea and passed the trocar and cannula into the apex of the right pleura. Strange to say the patient seemed to be immediately benefited; but within half an hour the right pleura had become distended with air, and difficulty of breathing of another kind had come on. She died in a couple of days from the results of the operation; and the larynx was found to be absolutely healthy. The case occurred before the invention of the laryngoscope, or the thermometer had come into use as an agent in diagnosis. Here the dyspnoea was probably due to functional affection of the larynx. In a case of my own, that of a highly hysterical girl of eighteen (who was under treatment for many months with hysterical paraplegia, attacks of hysteropilepsy, and analgesia), dyspnoea of an asthmatic character formed one of her symptoms. This came on quite suddenly on the first occasion, and was unattended with rise of temperature; but it continued for five or six weeks with varying severity, and during this period became associated with rapid breathing, frequent cough, and scanty expectoration, occasionally tinged with blood. At times, too, there was a slight rise of temperature. An attack a few months later presented similar phenomena. But rapidity of breathing may constitute the sole respiratory trouble. I recollect about ten years ago having a female patient under my care—I think between thirty and forty years of age—who, with other hysterical symptoms, suffered from attacks of rapid breathing, during which, sometimes only for a few minutes, sometimes for several hours, her respirations would rise to 70 or 80 in the minute, her pulse remaining normal in frequency, and there being no other indication whatever of intrathoracic disease. In 1883, Dr. Mackey of Birmingham published in the *Lancet* a similar case, in which the respiratory acts varied between 88 and 128 in the minute, while the pulse ranged from 59 to 72, and the temperature was normal. (Dr. Bristowe, *Lancet*, June 20, p. 1115.)

**Hysteria.**—*Circulatory Symptoms in.*—Circulatory troubles are common in hysteria. Limited pulsations, mainly of the abdominal aorta, simulating aneurism, have often been referred to this affection. Rapid action of the heart, tumultuous and irregular action, and extreme feebleness of action, are severally frequent consequences of emotional conditions, and necessarily, therefore, are frequently observed in hysterical patients. I have recently seen a remarkable case of what seems to me to have been

functional, not improbably hysterical, rapid action of the heart. A lady, thirty years of age, three years married, and without children, had a slight attack of pneumonia, from which, at the end of about five weeks, she had recovered sufficiently to be allowed to go out for a drive. This seems to have upset her, for shortly afterwards she was attacked with retching, difficulty of breathing, and nervousness. The retching subsided in the course of a day or two, but it was noticed that her pulse was remarkably rapid. It reached 180 in the minute, and, as her aspect became rather livid, and she was unable to lie down, her medical attendant naturally became uneasy. When I saw her a week later, she was sitting up in bed; she was spare, pale, and delicate-looking, with a shade of anxiety on her countenance, but nevertheless she was bright and cheerful, conversed pleasantly and without difficulty, and certainly did not look seriously ill. Her breath was a little quickened, but her heart was beating at the rate of 192 in the minute; the action was regular, the pulse was feeble, and the cardiac sounds, which were sharp and short, were free from murmur. The lungs were both healthy, and there was no evidence of disease in any other organ of the body. Her tongue was a little coated, and her appetite bad. This rapid action of the heart, which had existed for a week when I saw her, continued for another week, when it fell almost suddenly to 110, and then to 92. I visited her again soon afterwards, when she seemed quite well, but her pulse was still 92. The patient had always been delicate and nervous, but had never presented definite hysterical symptoms; formerly she had been stout, but some years ago became slim, and has since continued so. She never had rheumatism or any other serious disease; but during the last few years she has had several attacks like the present, and there is reason to believe that her pulse has been generally rapid. There was no protrusion of the eyeballs or enlargement of the thyroid. So far as I can call to mind, I have only on two other occasions met in adults with more rapid action of the heart than was presented by this lady. But the patients here referred to were dangerously ill, and their extreme rapidity of pulse occurred at times when death seemed imminent. One case was that of a young woman, in whom in the course of a very severe relapse of enteric fever, and when for some days her death was expected momentarily, the pulse continued at the rate of 198 in the minute. She ultimately recovered. The other case was that of a middle-aged man who had been suffering for two years from gradually increasing pallor and debility, and whom, when he came under my care, I thought to be suffering from progressive anæmia. He improved, however, considerably under treatment, and left the hospital stronger



and better than he had been for many months. One day, shortly after his admission, he fell, without obvious cause, into a state of collapse, and occasionally this was so extreme that his recovery was despaired of. During these attacks his pulse from time to time ran up to 200. His collapse was not due to hemorrhage. (Dr. Bristowe, *Lancet*, June 20, p. 1116.)

**INDIAN HEMP.**—*Toxic Symptoms from Officinal Doses.*—After giving the details of three illustrative cases in which the tincture of Indian hemp had been given for the relief of cough, Dr. Robertson, of the Ventnor Hospital, writes:—“With small doses the phenomena which occurred were mainly subjective in character, producing more or less bewilderment in the patient’s ideas. With a large dose objective phenomena manifested themselves, convulsions, dilated pupils, and pallor of the hands with subsequent flushing. Most probably this difference in effect is a difference rather in degree than in kind of action. The action of a large dose of the drug appears to have been mainly that of a stimulant of spinal centres, and it is feasible to suppose that slighter degrees of vasomotor stimulation might account for many of the phenomena produced by the use of smaller doses.” (Dr. Robertson, *Medical Times*, June 20, p. 818.)

**KÜSSMAUL’S COMA.**—Dr. Saundby has recorded two more cases of this affection. One, a case of diabetes, with phthisis; the other, a case of Bright’s disease, with cystic affection of one kidney. The coma was the mode of death in each case. In his summary of symptoms, Küssmaul speaks of the following:—1. A peculiar dyspnoea; 2. Rapid heart’s action; 3. Groaning, screaming, jactitation, and pain; 4. Normal or subnormal temperature; 5. Abundant urine containing sugar; 6. Contraction of pupils (in two cases); and 7. Paralytic distension of the stomach. Curiously, there is not a word about coma, or of any peculiar smell of the breath. Saundby is inclined to accept the view that Küssmaul’s coma, using a convenient though inexact term, is not restricted in its occurrence to cases of diabetes, but may be met with in several other diseases, especially in those in which the state of the blood has undergone profound pathological alteration. With regard to chemical reaction, if a solution of ferric chloride is added to urine, in certain cases a reddish brown or Burgundy red colour is produced, which disappears on heating or acidulation, but what this substance is must be considered as still an open question; it is neither acetone nor diacetic ether, and it is not certain that it is aceto-acetic acid. In making use of the ferric chloride test it is necessary to remember that heat darkens a solution of ferric salts, so that though heat may dispel the colour caused by the presence of the abnormal urinary con-

stituent, the fluid will be finally darker than it would be by the addition of ferric chloride to a normal urine, without heating. It is very important not to omit the application of heat, as other substances give the same colour distinguished only by its persistence on heating. Besides these chemical difficulties, clinical observation has shown that this reaction has a very widespread range of occurrence, and that its presence *per se* is of no special clinical significance. (Dr. R. Saundby, *Edinburgh Med. Journal*, April, p. 946.)

**LANDRY'S PARALYSIS.**—A case of this remarkable disease is narrated by Dr. Buck, of Leicester. When seen an hour before death, the patient, a female aged 20 years, was propped up in bed and answered questions rationally. She could not move her legs or her fingers, but could move her arms slightly. There was no trouble as regarded the bladder or rectum. The disease is mainly characterised by negatives in regard both to diagnosis and pathology. It is generally fatal, and may be of short duration. In this case the patient did her work to within three days of her death, and even went to the theatre on the third evening before she died. The leading features of the disease are gradually and usually rapidly ascending paralysis, without affection of sensation, or of the bladder and rectum; and so far as present observations go, a perfectly normal structural condition of the spinal cord after death. (Dr. W. E. Buck, p. 151.)

**PARALDEHYD AS A HYPNOTIC.**—I know of only two conditions in which the use of paraldehyd is objectionable, namely, in irritable or inflamed states of the throat or of the stomach, which its acridity is pretty sure to aggravate; and, indeed, this pungency is to be borne in mind when prescribing it for any case, and free dilution always provided for. The following formula I find the best.  $\mathcal{R}$ . Pulv. tragac. comp.  $\mathfrak{d}\text{ij}$ ; syrup. aurant.  $\mathfrak{z}\text{iv}$ ; paraldehydi  $\mathfrak{z}\text{j}$ ; sp. chlorof.  $\mathfrak{m}\text{xv}$ ; aquam ad  $\mathfrak{z}\text{iiij}$ . In mild cases, one such dose at bedtime suffices for the night; in more severe cases, its repetition may be necessary in an hour or a few hours; and such repetition answers better than giving a larger dose at once. By combination with morphia or with bromides, the soporific effect of both medicines seems enhanced. As an anodyne, the power of paraldehyd is feeble. (Mr. G. F. Hodgson, p. 163.)

**POLIENCEPHALITIS.**—Under the title of acute polienccephalitis or cerebral infantile paralysis the author describes a form of paralysis more or less common in children, which he says has not received the attention it deserves in the hand-books devoted to diseases of children or of nervous diseases. It has much in common with the disease generally known as "infantile paralysis" or acute poliomyelitis, but differs from it in that the seat of the lesion is in the convolutions of the motor area of the



brain. Like poliomyelitis it attacks children who have been hitherto strong, and in most cases there is no hereditary tendency to nervous disease, and no cause can be assigned for the attack, though in two cases it appears to have followed blows on the head, in one case measles, and another scarlet fever. In 24 cases noted by the author, the acute attack supervened in seven cases during the first year, eight cases during the second year, and four cases during the third year. The remaining five occurred in older children, the oldest being six years, the youngest four weeks. The initial attack in most cases began suddenly, with vomiting, fever, and convulsions, these symptoms lasting a variable time (two or three days to one or two weeks, or even more), to be followed by a hemiplegia, usually complete, coming on suddenly after a convulsion. As soon as the acute symptoms have passed away, the child is again lively, and except for its paralysis apparently well. Whether the initial attack is ever fatal is unknown, but it is quite possible that some of those cases which are seized with convulsions followed by a fatal result are cases of this description. The hemiplegia rarely remains complete, power gradually returns to some extent, and in time most learn to walk in a more or less lame fashion, the ankle turning in from paralysis of the peronei. The arm recovers more slowly than the leg, and while some use is regained it is quite unable to perform the finer movements. The limbs rarely remain as completely powerless as they do in some cases of infantile spinal paralysis. There is rarely facial paralysis, sometimes strabismus; in some cases an arm only, or arm and face, or leg only are affected. At other times there is no definite paralysis, only an ataxia with peculiar awkwardness of movement. There is interference with the growth of the affected limbs, but there is no atrophy of the muscles, or "reaction of degeneration." The muscles are not flabby and the limbs "flail-like," as in some cases of poliomyelitis, but the muscles are tense, and the tendon-reflexes increased on the paralysed, often also on the sound side. There is an especial tendency to various motor phenomena, as eclampsia and athetosis. The intelligence is generally affected, the child being late in talking, disposed to be mischievous, or there is some grave moral defect. There is no loss of sensation or muscular sense. There is a close analogy to spinal infantile paralysis. Both diseases are apt to attack healthy children during the first two years of life. The initial stage in both cases is closely alike. In both there remains a paralysis, due in the one case to an inflammatory lesion of the anterior horns of the grey matter of the cord, in the other to a similar lesion in the grey matter of the convolutions of the brain. The position of the lesion is deduced not only from the symptoms, but also from the result of post-mortem examination, porencephalic defect



being found in the motor region of the surface of the brain, a defect which bears traces of a past inflammation and is not the result of faulty development. (Abstract by Dr. Ashby of a paper by Prof. Strümpell, Medical Chronicle, March, p. 525.)

**UNILATERAL RECURRENT LARYNGEAL PARALYSIS.**—Perhaps the most common cause of this condition is aneurism of the aorta, which is, of course, more apt to affect the inferior laryngeal nerve of the left side. The left recurrent is also, from its anatomical relations, more likely to be pressed upon by enlarged bronchial glands. The right, on the other hand, may be, and not uncommonly is, involved in affections of the corresponding apex of the lung, less commonly it is pressed upon by aneurism of the innominate or subclavian. Other causes which affect both nerves with equal frequency are cancer of the oesophagus, goitre, mediastinal tumour, &c. In some cases rheumatic influences are said to produce paralysis, but it seems to me that, in view of the impossibility of excluding positively such causes as a very small aortic aneurism or an enlarged bronchial gland, a diagnosis of rheumatic paralysis could only be verified on the dissection table. Until quite recently it was assumed that pressure upon the recurrent nerve must of necessity produce an equal effect upon the power of all the muscles supplied by it. It was therefore believed that the vocal cord of the corresponding side always remained stationary in that position described by Ziemssen as the “cadaveric,” *i.e.*, midway between extreme abduction and adduction. Moreover, as all the muscles were supposed to be paralyzed, it was assumed that the cord of the affected side lost its tension and became excavated at the margins, while on attempted phonation a compensatory movement of the opposite cord with crossing of the arytenoids and obliquity of the glottis occurred. The condition thus described is that which is as a matter of fact seen in cases of complete recurrent palsy, and is not unfrequently met with, causing marked disturbance of voice. Although casual references had been made to the matter before, yet it is to Semon that we are indebted for first pointing out that the abductors of the cords are first and often alone affected by pressure upon the trunks of the inferior laryngeal nerves. Even in cases of laryngeal paralysis due to central causes, Semon has demonstrated beyond a doubt that the abductors are more apt to be paralyzed than the adductors, and he seems inclined to dispute altogether the occurrence of isolated paralysis of the adductors as a result of organic change. Now, this fact is not only of purely scientific interest, but of immense importance to the physician. In those cases in which the abductor of the affected cord only is paralyzed the cord remains in the middle line during inspiration, and this is in some cases

the only sign or symptom of disease. In these cases the voice for all ordinary purposes may be perfect, there is no dyspnœa, because on inspiration the healthy cord leaves ample room for the passage of air, and on phonation the laryngeal image seems perfectly normal. (Dr. McBride, Edin. Med. Journal, July, p. 12.)

**WRITERS' CRAMP.**—There is one absolutely essential factor in the treatment of all cases in which recovery is hoped for, and that is *absolute rest*. No case can possibly improve to any great extent without it. By *rest* is meant entire cessation from all those coordinative movements which are attended with pain, fatigue, or spasm. In order to insure restoration, I have in one or two cases ordered the arm to be carried in a sling during the first week of treatment. If there be any atrophy of the muscles, stimulating lotions, with rapid *friction*, may be employed; and I have seen good effects follow alternate *douching* with hot and cold water. *Calisthenics* have also been suggested, and may be approved if addressed especially to the affected muscles. *Massage* in cases of over-movement was first suggested by Wolff, and his results and method were published by Vigouroux in 1882. Briefly, his method “rests exclusively upon active and passive gymnastics of the fore and upper arm, upon massage, percussion, and friction of the same parts, and after a time elementary exercises in writing prescribed and adapted to each case by holding the pen in a definite manner. These are gone through with two or three times daily for half an hour or so at a time.” It is claimed that by this method Wolff cured 157, improved 22, and effected no change in 98, out of 277 cases of over-movement. The duration of treatment averaged three weeks. (Dr. R. P. Robins, Pennsylvania, p. 152.)

## AFFECTIONS OF THE CIRCULATORY SYSTEM.

**CARDIAC DISEASE.**—*Tapping the Pleura in.*—Dr. T. Grainger Stewart calls attention to the fact that two classes are to be recognized in cases of cardiac disease with pleuritic effusion—first, the obvious case of hydrothorax, and second, cases where, with distressing dyspnœa and only a small area of dulness in the chest indicating an unimportant amount of fluid in the pleural cavity, yet, paracentesis removes thirty or even more ounces of fluid. It is in this latter class that Dr. Stewart thinks the great relief which may be gained by tapping is frequently denied to patients from a too literal, as it were, interpretation of physical signs. (See page 167.)

**HYPERTROPHY AND DILATATION OF THE HEART IN VARIOUS DISEASES.**—The heart in anæmia is frequently dilated. In such there has been no undue filling of the left ventricle. The explanation is that in anæmia there is always heightened arterial



tension, and, as the blood is poor, the heart, suffering from malnutrition, dilates, owing to the increase of peripheral resistance. This is just the opposite of what is met with in cases of granular kidney. Here, as the result of increased peripheral resistance—cardiac nutrition being for long unimpaired—the heart does not dilate, but hypertrophies. Dilatation does not occur until long after, and then, amongst other things, the impoverished state of the blood has a good deal to do with it. It is through malnutrition, too, that we explain the dilatation of the left ventricle, which occurs in the course of febrile diseases such as typhus, and the sometimes very rapid dilatation of the ventricles which occurs after pericarditis—myocarditis in this latter so disturbing the nutrition of the muscular fibres that they soon dilate. If there is any form of cardiac disease in which pure hypertrophy is said to occur, it is in cases of uncomplicated aortic stenosis. All are agreed upon this point. It makes all the difference possible in these cases if the nutrition of the heart is not sustained. Once atheroma invades the orifice of one or of both coronary arteries, hypertrophy of the left ventricle, which has hitherto existed, disappears, and dilatation of that cavity speedily ensues, without there being any regurgitation. If there is anything that destroys the elasticity of muscular fibre, it is malnutrition; and if there is anything which causes muscle to lose all its normal characteristics, it is increased extension with impaired nutrition. In diseased conditions, such as rheumatic endocarditis, which tend to the development of aortic regurgitation, time, as a rule, is given, from the gentle nature of the distending force, for hypertrophy to be induced. In these the distending force is always less than the resisting. Hypertrophy predominates, and so long as it is kept within proper limits, all goes on fairly well with the patient. But in traumatic rupture of the valves an opening is immediately made by which a large column of blood is at once poured back into the heart (a heart, be it remembered, not at all prepared for such an occurrence), and the tendency is for it to bring about dilatation, and that very quickly too if the nutrition of the heart is not good. Hypertrophy does not occur in such to any extent, as a rule, owing to the greatness of the distending force, the shock to the heart from the accident, loss of general arterial tension, which causes, among other things, imperfect filling of the coronary vessels, and the fact that after the temporary recovery in these cases men return to their work, usually of a laborious character. In this way, great strain is continually thrown upon the interior of the heart. In these, as in ordinary cases of aortic regurgitation, the preceding state of the cardiac muscle rules to a great extent the progress of the disease. In every case of aortic incompetence from disease I believe the condition at first is one of hypertrophy, and it is thus I seek to explain the main-



tenance of life in aortic disease. Difficulties prevent me accepting the theory that there is first dilatation and then hypertrophy. Longevity, therefore, in aortic traumatism and in aortic incompetence, following pericarditis and myocarditis, is shorter than that in ordinary aortic regurgitation, from the fact that the normal conditions do not exist for the development of hypertrophy. This always precedes in ordinary cases. Dilatation follows when the health is lowered. Then the ill-nourished muscular fibre is stretched before the distending column of blood; the resisting force becomes less than the distending; the heart struggles with the increasing obstacle. At this point the mitral valves give way, and relief occurs, but only for us to realise that a new danger has been added, and that the heart is a step further on the road to ruin. (Dr. Thomas Oliver, Newcastle, Lancet, Aug. 8, p. 238.)

**INGUINAL ANEURISM.**—*Double Ligature with Kangaroo Tendon of the External Iliac Artery and Division of the Vessel between.*—A strong and muscular man, aged thirty-three, came under Mr. Walsham's care on February 4, 1884, for an aneurysm the size of a small cocoa-nut in the right groin. The patient had been in the army, and had had syphilis. He had only noticed the aneurysm two months, and attributed it to a fall whilst carrying a sack of coals on his back. He had followed his employment of a dock labourer till within a week of his admission to the hospital, when he had to give it up on account of pain and swelling of his leg. The aneurysm measured five inches and a half in its longitudinal diameter, seven inches in its transverse, and projected two inches above the level of the thigh. It extended about an inch above Poupart's ligament. The right lower limb and the penis were swollen and oedematous. Pulsation could be stopped with difficulty by pressure on the external iliac artery. The patient was placed in bed, and the limb bandaged and raised; but the aneurysm increasing in size, Mr. Walsham tied the external iliac on Feb. 8. The vessel was readily exposed in the usual way, and two strong kangaroo-tail ligatures having been applied three-eighths of an inch apart, the vessel was divided between them with scissors. The ligatures were then cut short, a drainage-tube inserted, and the wound closed with stout catgut sutures. The steam spray apparatus failed in the middle of the operation. The wound was dressed with carbolic gauze. On the second day after the operation the wound was found united by the first intention, except at its lower part. From this time the patient progressed favourably in every way, except that a sinus remained where the drainage-tube had been inserted, and the aneurysm, which ceased to pulsate on the application of the ligature, remained soft, and did not diminish in size. On March 27th his temperature rose

to  $101^{\circ}$ , and on the 28th to  $103^{\circ}$ ; whilst the pulse was 132. The wound was then dressed, and appeared healthy. Nothing fresh was noticed about the aneurysm. On the 29th the temperature had fallen to  $99.6^{\circ}$ , and the pulse to 120. The patient complained that the bandage felt tight, and it was loosened by the house-surgeon. On the 31st Mr. Walsham found on his visit that the aneurysm had given way at one spot, where the cuticle was raised into a blister by fluid black blood, which was oozing from a pin-prick aperture in the sac. The parts around were red and swollen; the sinus where the operation wound had been was healthy. The aperture in the aneurysm was closed by lint soaked in collodion, and a nurse placed on guard. On April 1st the aperture in the sac increased to the size of a penny-piece, and a black clot the size of a walnut was projecting. A probe soaked in a strong solution of perchloride of iron was thrust into the sac through the clot in six or seven places, and the clot covered with collodionised lint. On April 2nd this was repeated. On the 3rd the aneurysm was evidently sloughing, and a poultice was applied. On the 10th the aneurysm no longer projected, and was freely suppurating. On the 17th the site of the aneurysm was occupied by a healthy granulating wound. On May 17th the patient was discharged with both wounds soundly healed. The author remarked that the aneurysm had formed so rapidly, had attained so large a size, its increase was so marked during the few days it was under observation, and the sac was so thin, that ligature was resorted to without any attempts to cure it by pressure. Mr. Walsham had collected all the cases of aneurysm in the groin published in the English weekly periodicals, &c., since 1870. They numbered sixty-seven cases. Of these, thirty-six were treated by pressure, or by pressure and subsequent ligature. In nine only was pressure successful; in two of the remainder pulsation ceased in the sac, but the patients died apparently from the effects of the pressure. In the rest, pressure failed entirely, and ligature had to be resorted to. But not only in these did pressure fail to cure the aneurysm, but it appears in fifteen to have placed the patients in a worse condition for subsequent ligature, and in some in considerable danger of their lives. In three or possibly four, death seemed attributable entirely, or in great part, to the pressure. In face of these results, Mr. Walsham was inclined to question whether, as generally taught, pressure ought as a rule to be attempted in aneurysms of the groin before resorting to ligature. Since the revival of the method of applying two ligatures and dividing the artery between them, this appears to be the first case in which it has been employed on the external iliac. The advantages claimed for the method are—1st, that it diminishes the risk of secondary



hemorrhage by removing longitudinal tension of the vessel, and by ensuring that no part of the artery above the upper and below the lower ligature is deprived of the nourishment it receives from its sheaths ; and 2ndly, the artery being divided completely across, there can be no chance of its calibre being restored through the slipping of the knot, the too rapid absorption or giving way of the ligature, or the failure of division of the internal and middle coats. A restoration of the calibre of the artery from one or other of these causes has now in several instances led to a return of pulsation in the aneurysm, and in consequence, in some cases, to its rupture and fatal hemorrhage. In the last place, Mr. Walsham advocated the leaving of the suppurating sac to nature, in place of incision, and turning out the clots as advised by many—a proceeding which has led to severe, or even fatal hemorrhage. (Mr. W. J. Walsham, St. Bartholomew's Hospital, *Lancet*, May 2, p. 799.)

**NITRO-GLYCERINE AS A SUBSTITUTE FOR ALCOHOL.**—The author recommends the employment of nitro-glycerine as a substitute for alcohol. He states that some time ago, whilst using nitro-glycerine in a case of angina pectoris, and watching its wonderful stimulating effect on the heart and blood-vessels, it occurred to him that it might be advantageously employed in many diseases in place of alcohol. At first he was unwilling to rely on it solely, but as he became more fully acquainted with its effects he began to realise that as a heart stimulant it is far superior to brandy. Alcohol in its effects on the system is classed with chloroform and ether. All three produce first a period of excitement, followed by unconsciousness. In the case of chloroform and ether the second stage is quickly reached, so that they are readily available as anæsthetics. With alcohol the first stage is of longer duration, the secondary effect not being apparent unless large quantities are taken, so that it is generally employed as a stimulant to the heart and circulation. Nitro-glycerine, possessing this stimulating effect in a pre-eminent degree, may be given with confidence whenever the administration of brandy is indicated. Its advantages are, in the first place, that a very small quantity is required, one or two drops of the 1 per cent. solution being equivalent to one ounce or more of brandy ; secondly, that it is tasteless, colourless, and practically odourless ; thirdly, that it acts immediately and without any appreciable interval ; and, finally, that it is not likely to induce a craving for alcoholic stimulants. An extensive experience has shown that it is of great value in the shock resulting from accidents, in the nausea and faintness following surgical operations, in the failure of the heart's action due to the administration of chloroform, in opium poisoning, in asthma, hysterical aphonia, and the collapse of typhoid and other fevers. Dr. Burroughs gives a detailed



account of a number of cases in which he has employed it in the manner indicated. The suggestion is a good one, and will probably be extensively adopted. (Dr. J. B. Burroughs, Manchester, N.Y., Lancet, Aug. 8, p. 257.)

**PERICARDITIS.**—*Paracentesis Pericardii.*—Tapping the pericardium should be tried wherever life is imperilled by the copiousness of the effusion. It should be tried, even if pericarditis be not in itself dangerous, in any case of considerable pericardial effusion in which the pulse threatens to fail. Whether it be due to inflammatory or degenerative changes in the cardiac muscle, or to general debility from severe or prolonged disease. Exploratory puncture should be made by means of a Wood's syringe or other fine perforated needle, the needle being cautiously introduced at a point where there is absolute dulness and least likelihood of injuring the heart. If serous fluid be found, the fine needle of an aspirator should be introduced at the same point and the fluid drawn off. If purulent fluid be found, either aspiration, or what is probably better, free incision, should be resorted to and the pus evacuated. The splendid results obtained by the latter plan of treatment by Dr. West and by Professor Rosenstein of Leyden must satisfy any one who reads their papers of the value of this method. (Dr. Grainger Stewart, Edinburgh, p. 165.)

*Pericardial Effusions.*—*Paracentesis.*—It may be questioned whether the idea of the material tendency of pericarditis towards recovery has not led us to neglect unduly a method of treatment (paracentesis) which, in a limited number of instances, might with advantage be resorted to. Dr. Leech narrates two cases of pericardial effusion where the fatal termination might have been postponed, if not prevented, by a timely tapping, and one case in which, under very unfavourable circumstances, the life of the patient was preserved by drawing fluid from the pericardial sac. Dr. Leech adopts Dr. Stewart's views upon this subject, as given at page 165 of this volume. (Dr. D. J. Leech, Manchester, Medical Chronicle, Sept., p. 441.)

**VARICOSE VEINS.**—*Excision.*—By far the most successful means of treating varicose veins is excision. The use of caustics and subcutaneous section are unsatisfactory. Excise several small pieces at different points, rather than several inches at one place, and use strict antiseptic precautions. Mark on the skin the places where incisions should be made, and then apply an Esmarch's bandage. Ligature the vein at the upper end of each small incision, and dissect it out from above downwards. Apply the dressings and bandage the limb before removing the tourniquet, by which means hemorrhage is avoided and primary union encouraged. (Mr. J. Farrant Fry, p. 238.)

## AFFECTIONS OF THE RESPIRATORY SYSTEM.

**BRONCHO-PNEUMONIA.**—*Treatment by Bleeding and Ice.*—Dr. Lees of the Hospital for Sick Children narrates two cases of acute broncho-pneumonia, in which a successful result followed the abstraction of blood and the application of ice-bags to the affected chest. In the first case, that of a girl aged 15 years, ten ounces of blood were withdrawn; in the second case, about one ounce of blood was taken by means of leeches applied to the chest wall from an infant  $6\frac{1}{2}$  months old. He concludes his paper with the following remarks:—"The true indication for bleeding in pneumonia seems to be the approach of failure of the right heart to overcome the greatly-increased pressure in the pulmonary artery, due either to extensive consolidation of lung, or to overwhelming engorgement. Evidence of this approaching failure was present in each of the cases narrated. In the former, the necessity for bleeding was in my opinion urgent; in the latter, it was not urgent but imperative. In both, the relief afforded was marked and immediate. It is doubtful, however, whether it would in either case have been more than temporary but for the beneficial influence of the cold applications. The superiority of the ice-bag to the poultices which it replaced was very obvious in each case. The older patient was conscious of increase of comfort during its use, and the application was therefore continuous, both by day and by night. In the case of the baby, the ice was removed when the temperature sank to  $102^{\circ}$ , and replaced when a further rise occurred." (Dr. David B. Lees, British Med. Journal, July 11, p. 57.)

**CHRONIC CATARRH OF THE LARYNX AND PHARYNX.**—*Local Treatment.*—For this form of catarrh, when the pharynx is involved, you should apply a strong solution of carbolic acid to the part; a ten per cent. solution of pure carbolic acid in glycerine is the best preparation to employ when the mucous membrane is dry, and the quantity of secretion small. In cases of laryngitis, instead of using carbolic acid, solution of nitrate of silver (one drachm and a half to the ounce of water) should be carefully introduced into the larynx by means of the laryngeal douche. For the first week, the application should be made daily, or even twice a day. During the second week, you may use it less frequently, say every second day, and so on, gradually increasing the length of the intervals. Simple or medicated steam-inhalations are, in my experience, of very little use; but the employment of a spray of five grains of sulphate of zinc to the ounce of water is often beneficial, when combined with the treatment I have just mentioned. When there is pain in the larynx or surrounding parts, blisters, applied externally in the same way as I advised you to employ them in cases of catarrh during its early stage, are often of great use. (Dr. David Newman, p. 177.)



HAY FEVER.—*Successful Treatment by Cocaine.*—I am desirous of calling attention to the value of tabloids of cocaine in the treatment of hay fever. I feel that I can speak with confidence on this point, as I have for many years been a sufferer from this distressing affection, and the observations were made moreover upon myself. The attacks in my case usually commence about the last week in May, and continue without intermission until the end of July, the discomfort and inconvenience experienced being so great that during the summer months I am practically incapacitated for work. The most prominent symptom is sneezing, which comes on in paroxysms, and is liable to occur at any moment, night or day. The attacks are most severe and persistent, and are entirely uncontrollable, so that over and over again I have been obliged to leave the lecture theatre or a place of amusement, and go home and lie down. They are accompanied by great shortness of breath, during the persistence of which any exertion is impossible; the exhaustion produced is so great that the whole body is bathed with perspiration, and there is generally a feeling of faintness, accompanied by dimness of sight, and often a staggering gait if an immediate attempt be made to walk. Other symptoms are itching and irritation of the nose, with smarting and tickling of the mucous membrane of the nares and septum. There is an irresistible desire to violently rub the offending member with a coarse pocket-handkerchief, although painful experience has taught me that it ultimately intensifies the trouble and irritation, which return with redoubled vigour immediately after the application. At the same time there is a copious secretion of acrid mucus, which acts as an irritant, and inflames the surface with which it comes into contact. The eyes are usually suffused with tears, and there are tickling and itching of the margin of the lids, which are pressed tightly together in the vain hope of obtaining relief. The hard palate burns and itches so intensely that the tongue has to be forced backwards against it in order to allay the irritation. All these symptoms are greatly intensified by heat or sunlight, and by dust of all kinds. The pollen of hay, either growing or stacked, is perhaps the most powerful exciting cause, but minute particles of any kind floating in the air will act in the same manner. Even the starch from a freshly washed and ironed handkerchief will suffice, unless carefully shaken out before being used. The susceptibility is so great that until lately no remedy which was tried—and the last was a long one—appeared in any way to control the course of the disease. A fortnight ago I was induced to use the tabloids of cocaine for the first time, and the relief they have afforded me has been so marked that I cannot feel sufficiently grateful for the introduction of this remarkable remedy. One tablet, containing a sixth of a grain of the



hydrochlorate, is slightly moistened in the mouth, and is then introduced into each nostril. They adhere without the slightest difficulty, and cause no pain or irritation of any kind; but the relief is immediate and complete. During the last fortnight I have used twenty-four tablets, and have been practically free from my old complaint, although I have spent much of the time out of doors and under circumstances which without my remedy would have been impossible. I am grateful for the relief I have obtained, and am therefore desirous to lay this plain statement of facts before your readers, in order that it may be brought to the notice of my fellow sufferers. (Mr. John Watson, Westminster Hospital, Lancet, July 4, p. 50.)

LOCAL ANÆSTHESIA OF MUCOUS MEMBRANES.—*Menthol a Substitute for Cocaine.*—Dr. Albert Rosenberg, of Berlin, has found in menthol, in etherial or alcoholic solution (20 to 30 per cent.), a useful substitute for the expensive cocaine, in cases where local anæsthesia of mucous membranes—e.g., of nose, pharynx, and larynx—is required. The effect of menthol is not so lasting as that of cocaine, but it appears to have somewhat of a cumulative action; for, when repeated, even after a long interval, the later application produced a longer period of anæsthesia than the earlier. (Lancet, July 18, p. 128.)

NASAL ASTHMA.—A form of paroxysmal dyspnoea is not unfrequently associated with the presence of changes in the nasal mucous membrane, whether such changes be of an inflammatory nature, or consist of the ordinary polypoid outgrowths seen in the nose and naso-pharynx. Dr. Hunter Mackenzie strongly recommends in the inflammatory cases the applications of bougies to the nasal cavity, containing belladonna or atropia. The cases in which polypi are present must be treated by the ordinary methods. (Dr. G. Hunter Mackenzie, p. 175.)

NECROSING ETHMOIDITIS.—*Its relation to Nasal Polypus and Ozaena.*—Under the title of necrosing ethmoiditis, Dr. Woakes describes a chronic inflammatory destructive change in the osseous walls of the ethmoidal cells, and their mucous covering or muco-periosteum. The disease at its commencement is of a purely catarrhal nature, affecting only the free mucous surface, but owing to the very intimate connection between the bone and its mucous covering, otitis and subsequent necrosis result from this long-continued inflammatory change. The disease, Dr. Woakes says, being a chronic inflammation of all the tissues of the ethmoid, associated with more or less of interstitial death of the bony dissepiments which separate and enclose the cellular spaces of the bone, appears to justify the term necrosing ethmoiditis, whilst its most objective symptom consists from the first in an enlargement of the lower turbinated process of this

bone—the middle spongy bone of the nose—its progress from an early date is marked by the presence of squames or spicules of dead bone detached from the trabeculæ of the internal osseous structure, and which remain concealed in the depths of the tumour. This necrosing process, which commences usually in the spongy projection, gradually and insidiously invades the ethmoidal cells. The lesion, it appears, may spread to the floor of the orbit, and to some adjacent parts of the base of the skull, giving rise, as in one case under Mr. Erichsen's care, to exfoliation of the sella turcica. Clinically, the following changes are observed:—1. The superficial muco-periosteum becoming increasingly thicker, gradually showing neoplasms at first resembling granulation tissue, which finally pass into true myxoma—i.e., mucous polypus. 2. The presence of denuded spicules and squames of necrosed bone, with the gradual cleavage of the spongy process into two or more sections, the latter being explained in part by the pathological process of canalisation which the microscopic examination shows to be taking place *pari passu* with the other products of the disease. 3. The emergence of polypoid growths from within the tumour, a circumstance microscopically shown to be due to the development of isolated foci of myxoma in the centre of the diseased spongy bone. The gross result of these processes is to present us with the phase of the disease in which polypoid growths are its most objective symptom. Whether these will be flat and sessile, or bulky and pedunculated, depends chiefly on their situation, and to some extent also on the rate at which they progress. Hence, to regard such a case as one simply of mucous polypi, and to treat it as such, is clearly to misapprehend the nature of the disease. For if the observations just recorded possess any significance whatever, they obviously imply that polypus of the nose is only one symptom of a much more important and far-reaching disease—namely, that of necrosing ethmoiditis. This statement does not ignore the fact that mucous polypi may arise from the lower spongy body, or from the osseous portion of the septum nasi. But in both the origin of the disease is essentially the same as that under review; and as regards the lower spongy body, its anatomical connexions are so comparatively unimportant that it will tolerate almost any kind of treatment that the eradicating genius of the surgeon may cause it to undergo. (Dr. Edward Woakes, Aural Surgeon to the London Hospital, &c., *Lancet*, July 18, p. 109.)

**OZÆNA.**—Lœwenberg, in *L'Union Médicale*, remarks that the discovery of living microbes in the discharges is an indication for energetic parasiticide treatment. To this end he employs:—1. The *nasal douche* with a solution of 1 part (of corrosive sublimate) to 9,000 or 10,000 parts of water,



gradually increasing the sublimate, so long as the patient can endure it. That the veil of the palate be elevated during the application, it is recommended that the vowel *a* be sounded. 2. The *nasal bath*, which is accomplished as follows:—The douche being completed, the patient inclines the head backwards, so that the nostrils become the most elevated point of the naso-pharyngeal cavities. While in this position, the solution of corrosive sublimate is gradually introduced through one nostril till it is at the point of escaping by the other, the patient all the time breathing through the mouth, or sounding the letter *a*. It is thus made certain that both nasal fossæ are filled, since the fluid in them conforms to the hydrostatic law of communicating vessels. 3. After the douche and nasal bath, the treatment is terminated each day by insufflations of an *impalpable powder of boric acid*; it is necessary to proceed with great care, so as to spread the powder uniformly upon the whole interior of the nasal fossæ and upper pharynx, especially when there is much lateral deviation of the septum. The sounding of the letter *a* is here generally recommended to prevent the acid from reaching the larynx. The results of the above treatment much excel those obtained by the nasal tampon, which is objectionable on account of retaining fetid discharges. The method as indicated above, destroys the fetidity of the discharges, and marked improvement of the general health follows its use. (Loewenberg, Philadelphia Med. News, Jan. 10, p. 38.)

**PHTHISIS.**—*The Influence of Intercurrent Albuminuria upon its Course.*—The occurrence of albuminuria, due to lardaceous or other disease, during the progress of pulmonary phthisis, is by no means uncommon, but is, I think, noteworthy on account of the influence which it seems to exert over the temperature of the disease. In six cases of well-marked tubercular disease of the lungs, the temperature was much lower than usual, and seemed to bear a fairly constant relation to the amount of albumen in the urine; being highest in those cases where the amount of albumen was least. In four of the cases, the existence of lardaceous disease was demonstrated at the autopsy, while in the other two it may reasonably be concluded that it was present. In two cases, the temperature followed its usual course in pulmonary phthisis, although in each the urine was albuminous. If the mere presence of albuminuria were sufficient to lower the temperature, we should expect a low temperature in the two last cases also. It has been suggested that the reduction of temperature is due to a toxic influence upon the nervous system caused by the retention within the blood of products which should have been eliminated by the kidneys. If this be the case, we should expect this influence to be more marked in cases of parenchymatous or interstitial nephritis, where the elimination



of these products is largely interfered with, than in cases of lardaceous disease, where, although the escape of a large amount of albumen is permitted, there is not the same interference with the passage of urea and its allies. It would also seem probable that there would be other symptoms of uræmic poisoning, and especially coma; whereas, in the cases to which I have referred, there were no signs of coma, but death was due to asthenia. I would prefer to think that the association of the natural failure of the constitutional powers in an exhausting disease such as phthisis, with the additional exhaustion caused by the constant drain of large quantities of albumen from the blood, is the true cause of the low temperature in the cases which I have described—the two combining to mask the febrile temperature of the uncomplicated disease. (Dr. G. A. Bolton, *Medical Chronicle*, June, p. 184.)

*Phthisis.*—*Antipyrin in the Pyrexia of.*—Besides rest, even to the extent of confining one's patient to bed, and careful dieting, one must have recourse to medicinal remedies. I have generally found the following useful, although sometimes one and all have been extremely disappointing: quinine, the various preparations of salicin, digitalis, aconite, kairin, and Warburg's tincture, are the principal drugs I have employed, and I find they are more efficient when given in some effervescing form. For the last eight months I have been using antipyrin, and certainly in my hands it has been more successful than all the other drugs put together. (Dr. J. Holland, p. 172.)

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#### AFFECTIONS OF THE DIGESTIVE SYSTEM.

##### A LOW STANDARD OF HEALTH WITHOUT DEFINITE SYMPTOMS.

—As there is a pre-arthritic stage of gout—a dietetic disease at the opposite pole of the feeding scale—so likewise, we may presume, there is a pre-hemorrhagic stage of scurvy. I have sometimes observed the existence of a low standard of health, without any very definite symptoms, which I could only attribute to a too protracted abstinence from fresh vegetables and fruit. (Dr. W. Roberts, *British Med. Jour.*, Aug. 1, p. 189.)

**ATONIC DYSPEPSIA.**—*Sour Milk.*—I should like to draw attention to the remedial effects of a very old and well-known fluid. I find that sour milk is a good remedy in many cases of atonic dyspepsia, or, at all events, it is a good adjuvant in the treatment of slow digestion where flatulence and a sensation of cramp in the stomach are prominent symptoms. The good effects of sour milk were casually discovered by me some months ago, and since then I have prescribed it with satisfactory results in many cases of indigestion. If the curd of the milk should disagree with a patient, it should be strained off, and the whey can then

be given, or taken a short time after meals, warm. A gentleman who suffered much from flatulence and other disagreeable symptoms after meals can now keep himself free from them by drinking, half an hour or so after eating, a tumblerful or half a tumblerful of ordinary cold sour milk, which to him is a most agreeable beverage. I believe the efficacy of sour milk in atonic indigestion is owing in a great measure to the lactic acid which it contains, which acid some physiologists say is one of the ingredients of the gastric fluid. (Dr. W. O'Neill, Lincoln, Lancet, Aug. 29, p. 390.)

**BILIARY COLIC.**—*Fatal without Jaundice.*—Professor Gairdner publishes a remarkable case of a patient suffering from mitral disease, where death was occasioned by the impaction of a small gall-stone in the orifice of the common bile duct; or rather, where the only condition found at the post-mortem in any way likely to have produced the symptoms immediately preceding and determining death, was the one just mentioned. The point of interest in the case, and upon which Professor Gairdner makes some exceedingly instructive remarks, was the entire absence of jaundice in the lethal, and in many previous attacks of colic from which the patient had suffered. It should clearly always be held in mind that the most severe, and, as Dr. Gairdner's case shows, even fatal biliary colic may be unattended throughout its course by the slightest jaundice, or even staining of the urine. There is perhaps nothing new in this observation, so far as stones impacted in the neck of the gall-bladder or in the cystic duct are concerned; but that a stone, not of such size or shape as to completely block the common duct, and consequently not causing jaundice, should, by its mere lodgment in the orifice of the duct, set up sufficient disturbance of the nervous apparatus to cause death, is indeed remarkable. The case is published with the object of showing how errors in diagnosis may arise from a too rigid adoption of the dominant condition as the explanation of all incidental phenomena which may arise in any given case. Dr. Gairdner's case was regarded as one of ordinary mitral disease, with only an exaggerated form of the visceral pains from which the victims of chronic cardiac disease so constantly suffer. (Dr. W. T. Gairdner, Lancet, June 6, p. 1025.)

*Biliary Colic.*—*Treatment by Washing-out the Stomach.*—Among the other purposes for which Kussmaul's procedure of washing-out the stomach has been suggested, is biliary colic, due to impacted gall-stones. At a recent meeting of the Berlin Medical Society, Rosenthal reported two cases treated in this manner. One was that of a woman of thirty-three, who had been six months under his care with successive attacks of biliary colic,



for which all the usual measures had been resorted to, morphine alone giving her relief. He then washed out the stomach, with a view to obtaining the sedative effect to which attention had already been called by Senator. As an apparent consequence, the vomiting, which had been troublesome, ceased. She returned almost daily to have the operation repeated, and on the fourteenth day she brought with her two gall-stones, each about as large as a hazel-nut. Since then she has had no recurrence of the symptoms. The second case was also that of a woman who suffered from very severe attacks of hepatic colic with obstinate vomiting, and, after washing out her stomach for a few days, not only did the vomiting cease, but the stones were also passed. Rosenthal did not undertake to explain the *rationale* of this treatment. (Rosenthal, Dublin Jour. Med. Science, June, p. 546.)

**CASTOR OIL MADE TASTELESS.**—Castor oil may be made tasteless thus:—℞. Castor oil, 20; white sugar, 10; roast coffee, powdered very fine, 10. A teaspoonful for children. (Medical Chronicle, Sept., p. 484.)

**COLOTOMY.**—*Delayed Opening of the Bowel.*—Following the suggestion of Mr. Davies-Colley, made at the Clinical Society on March 13th, Dr. Hume, of Newcastle, has adopted this procedure in two cases requiring colotomy recently under his care. The method is based, in principle, upon the practice introduced into this country by Mr. Howse in the operation of gastrostomy. Dr. Hume speaks favourably of the modification, as permitting the use of antiseptic precautions, and the rapid healing of all parts of the wound not occupied by the artificial anus. The interval between the steps of the operation was five days in both his cases. (Dr. G. H. Hume, p. 251.)

**CONSTIPATION LONG-CONTINUED.**—*Its Consequences.*—Dr. Bristowe gives, in the form of a clinical lecture, five examples of the severest form of habitual constipation, and its effects. Two of the narratives are followed by some few observations which, though based upon the leading features of the case immediately in view, seem to us to have so important a bearing upon the condition as a whole that we venture to reproduce them here. Dr. Bristowe says, in remarking upon the third case in the series (a case of enormous accumulation of fæces in the large intestine causing hypertrophy and dilatation of the bowel, with ulceration of the mucous membrane and death), “In this case we have a striking example of the injurious effects of neglected and prolonged constipation. How far former repeated occurrences of constipation may have been instrumental in causing some of the dilatation and hypertrophy of the large intestine which were present at the time of death, it is impossible to say. But that the main part of the dilatation and hypertrophy was



due to the ten weeks' absolute constipation that preceded death, there can be no reasonable doubt. It is easy to understand, and this case demonstrates the fact, that a lump of fæces unduly retained in the ampulla of the rectum, growing harder with time, and larger from repeated additions to it, may thus, before long, become extremely difficult of spontaneous dislodgment, and that the longer the process is continued, the more the addition of concentric laminæ of fæces around the central core distends the ampulla, and the more the accumulation dilates the rest of the larger bowel, the more (notwithstanding the development of compensative muscular hypertrophy) the bowel becomes an inefficient instrument for the transmission of its contents; until at length what was at first only difficult, becomes impossible without mechanical assistance. This case shows how extreme the hypertrophy and dilatation may become under such conditions; but it shows, also, how, under the same conditions, the mucous membrane of the distended bowel tends—partly, probably, from the mechanical effects of over-distension, partly, probably, from the fretting of the surface by the retained fæces—to undergo excoriation. I may point out that the same kind of excoriation, similarly produced, is a common and grave sequence of dilatation of the colon due to stricture.” In concluding the reports of two more cases of fatal constipation, Dr. Bristowe writes:—“The three cases which I have adduced in elucidation of my first two, show clearly how, in association with long-continued obstinate constipation, the colon undergoes hypertrophy and dilatation, and becomes sluggish and inefficient. They show, in its extremest form, the condition of bowel which, from the history and observed clinical facts of the other cases, I assume to be present in them in a slighter degree. It may be gathered from them how fæcal masses of unusual consistency and coherency might, in such cases, be easily left behind, while the softer parts were transmitted, and might remain *in situ* almost indefinitely. And one may see from them how readily dysenteric diarrhœa, due to ulceration, might, as in my second case, alternate with, or succeed, or even accompany, the more characteristic constipation. I do not myself think that fæcal accumulations often form definite circumscribed tumours, detectable by palpation; but they certainly do occasionally, and I can call to mind one or two cases of abdominal cancer, with some dilatation of bowels, in which such definite movable lumps, doughy to the fingers, and disappearing in the course of time, were repeatedly recognised. The cases I have narrated show the importance, in the first place, of not allowing constipation to be neglected and to become habitual; and, in the second, of emptying the rectum by mechanical means when there has been constipation of long standing, which does not

readily yield to medicines. They show also the little efficacy, in such cases, of even drastic purgatives, in either dislodging impacted masses, or emptying the bowel." (Dr. J. S. Bristowe, British Med. Journal, May 30, p. 1085.)

*Habitual Constipation.—Friedrichshall Water.*—I have recently been using the Friedrichshall water in a variety of cases, in hospital practice, and I find it to possess the same valuable therapeutical qualities which explain and enhance its long-established reputation as a favourite aperient in habitual constipation, and in the wide range of cases in which it is desirable to employ a laxative of mild character, and fitted for continued use. Friedrichshall has a special constitution, which secures to it marked preference over the ordinary sulphate of magnesia waters, and over the ordinary in general use. Its special advantages are probably largely due to its combination of chlorides with sulphates. It is not merely a saline aperient, but it has valuable properties in influencing tissue-change and promoting excretion of uric acid. Thus its use is attended with excellent results in cases of congestions of the liver and kidney, as a corrective of the digestion, and as what may be familiarly described as a tonic-aperient. Friedrichshall realises in practice the valuable curative powers ascribed to it by the eminent German physician with whom it has long been a standard prescription. I hope, shortly, to publish, in a more detailed form, the results of clinical experience, which indicate the special advantages of Friedrichshall to which I refer. (Dr. Wm. Murrell, British Med. Journal, Sept. 19, p. 545.)

**ENTERORRAPHY.**—The following are the general principles upon which all successful methods of closing wounds of the intestine must be based:—1. The coats of the intestine, when divided, retract, the mucous coat least, the serous next, the muscular coat most of all, nor can the amount of retraction of the latter coat be absolutely judged whilst the patient is under the influence of chloroform. It is only when, the bowel reduced, the abdominal wall sewn up, and the patient recovered from his state of insensibility—in a word, when the future behaviour of the bowel is out of our hands—that the maximum of such retracting force will be reached. So with a suture which holds the intestine only at points, although when the intestine is reduced the two ends may appear to be in a straight line together, when this retractile force comes into play, the straight line will become crenate, "so that each stitch becomes the extremity of an aperture, the area of which is determined by the distance of the stitches." I am speaking, of course, of cases in which the section has been made by the surgeon himself whilst the patient is anæsthetised. 2. The presence of a suture



is a necessary evil, but still an evil, especially when, as in most sutures, the knot is on the peritoneal surface; inasmuch as each thread, and, *a fortiori*, each knot, is a possible source of irritation to the surrounding peritoneal surfaces, determining the formation of bands of adhesion, &c.; for, whilst aseptic sutures may be trusted not to produce suppurative peritonitis, plastic peritonitis is almost certain to be caused by them. Moreover, when the threads ulcerate through, as they will unless absorbable, if adhesion is not absolute, the openings through which such sutures pass may form avenues by which faecal matters may reach the peritoneal cavity. 3. Since it is convenient, if not necessary, that sutures should pass away from the part sutured, after their temporary purpose is served, a suture which simply penetrates the serous membrane alone will find more difficulty in reaching its destination than will one that traverses the entire wall. Of course, in the case of unabsorbable materials, such passage is not merely convenient, but essential, and, as a matter of fact, catgut ligatures are not nearly so easy to manipulate in sewing the gut as silk or Chinese twist, &c. Moreover, Baum (*Berliner klin. Woch.*, 1881) condemns catgut emphatically in such cases, as yielding too quickly to the influence of heat, moisture, &c. 4. A continuous suture is only firm so long as each part of it remains so. If, therefore, in one part the suture has ulcerated through, adhesion behind being complete, the pressure exercised upon the rest of the bowel wall is decreased by so much, and should adhesion be insufficient at any other point, the contents of the bowel may escape at that point, and the whole purpose of the suture be defeated. Moreover, the presence of this long thread, no part of which can be carried away until the whole is loose, with part of it free in the midst of putrefactive matter in the intestinal lumen, must create a constant risk of septic material being conveyed to those parts of the wall from which it is not yet free. 5. All internal supports which are intended to pass down the bowel after having served in securing it are objectionable as exposing the patient to unnecessary secondary danger. (Mr. E. Stanmore Bishop, *Medical Chronicle*, Sept., p. 452.)

[At page 253 will be found Mr. Bishop's description of his own recently invented method of intestinal suture, illustrated.]

**FÆCAL ABSCESS.**—The treatment of faecal abscesses is, of course, mainly surgical; and an opening should be made as soon as the diagnosis is determined. When there is any reasonable doubt as to the nature of the tumour, it is wiser to pass an aspirator into it than allow it to remain unexplored for any considerable time. You must bear in mind that the openings should be very free, as sloughing of the integuments is apt to occur.



from the irritation set up by the contact of the decomposing discharges. There are, however, one or two points as regards the medical treatment of these cases worthy of discussion; and one of the most important is, Should purgatives be employed? You might reasonably object to their use on the supposition that, by increasing the peristaltic action of the intestines, the contents of the sac would be increased; but experience does not show this to be the case. On the contrary, I have already had occasion to mention to you that diarrhoea, whether occurring spontaneously or as the result of medicine, has often been found to lessen the size of the swelling, and that, consequently, purgatives may be of use in the diagnosis of the disease. They may be also useful in enabling us to distinguish between a fæcal abscess and a fæcal accumulation in the colon. In such a case you should watch not only the effects of the aperient on the size of the tumour, but also whether there are scybala in the evacuations. But the administration of purgatives, and especially of calomel, seems often to afford relief, not only by removing part of the contents of the sac, but perhaps also by altering the character of the fæces, and lessening their irritating nature. Opium must, of course, be resorted to, for the purpose of relieving pain, and the dose should be in proportion to the effect required. I have seen leeches, blisters, and iodine used in these cases, especially in the earlier period, but without beneficial results; and as soon as the real nature of the case is suspected, I would advise you to content yourselves with the application of hot poultices and fomentations to the painful part, and have recourse to surgical measures as early as possible. (Dr. S. Fenwick, p. 186.)

#### FEEDING A PATIENT IN THE LAST STAGE OF EXHAUSTION.—

Do not give him beef-tea alone, but add to it some infant's prepared food in which the starch has been converted into soluble dextrine, or maltose. This is rapidly converted into grape sugar by the aid of a little touch of saliva, and grape sugar is food for a dying man—beef-tea alone is not. (Dr. J. Milner Fothergill, p. 157.)

#### GANGRENOUS INTESTINE.—*Resection of in Strangulated Hernia.*—

Mr. Banks, of Liverpool, in commenting upon a successful case of resection of gangrenous gut in strangulated hernia, points out that in such examples of the more disastrous results of injury to the hernial contents, two courses are at present open to the surgeon—either to procure the patient an artificial anus and cure him of that subsequently by the use of the enterotome, or by a less fatal form of bowel excision—or to subject him at once to an operation, more fatal it is true, but which in all other respects manifestly has the advantage. Mr. Banks' case occurred in an otherwise healthy man, twenty-five years of age,

in whose case the intestine had been strangled for four days, during which time it had been subjected to much manipulative violence. Several inches of intestine were removed, with the corresponding wedge of mesentery, and the cut edges of both brought together by appropriate sutures. The patient made an uninterrupted recovery, and was reported free from any signs of narrowing of the intestine seventeen months afterwards. (Mr. W. M. Banks, p. 263.)

*Gangrenous Gut.—Treatment of.*—Mr. Banks concludes a very important paper on this subject, with the following propositions:—(1) That when gangrenous gut is discovered in a hernial sac, no attempt whatever should be made to divide the stricture. (2) That practical experience is required to determine the expediency of drawing down into the hernial opening a fresh piece of bowel. (3) That the cases appropriate for resection of the gut must be very few, requiring, as it does, that the patient should be young and vigorous, with abundant reparative power; that the hernial sac should not be full of putrid pus or evacuations from a perforated bowel; and that the operation should be done in daylight, and with competent assistance and antiseptic precautions. So far the statistics of resection of gangrenous bowel show a mortality of 52 per cent., whereas by making an artificial anus all the patient's immediately dangerous symptoms are relieved, while he has a chance of subsequent cure (*a*) by spontaneous closure of the aperture; (*b*) by the use of the enterotome or the rubber tube; and (*c*) by the employment of resection at a later stage, the statistics of which show a mortality of only 38 per cent. (4) That in resecting the bowel it is not necessary to have any apparatus to distend it, and that while the fingers of an able assistant will generally serve to control the divided ends, it may be necessary to use some simple clamping instrument having parallel blades and covered with rubber. (Mr. W. Mitchell Banks, p. 268.)

**GASTRO-ENTEROSTOMY.**—This operation was first performed by Dr. Anton Woelfler, of Vienna, on Sept. 27, 1881. It was devised upon the spur of the moment, as a substitute for pylorotomy in a case in which excision was rendered inadmissible, owing to extensive adhesions of the pylorus to the pancreas. As there was a high degree of stenosis present, and the man was dying from inanition, it was decided to attempt to afford an exit for the gastric contents by establishing a communication between the stomach and a neighbouring loop of small intestine. The patient was thirty-eight years of age, and presented the usual symptoms of pyloric cancer. Upon the above date, Dr. Woelfler prepared to perform resection, but after opening the abdomen found the conditions too unfavourable, and rejecting



duodenostomy, the only other alternative, he simply raised the nearest loop of small intestine, and after making an incision one and one-half inches in length in the free border of the gut and in the anterior stomach wall near the great curvature, united the edges of the two openings with Lembert sutures. The result was all that could have been expected; the patient, who had been vomiting incessantly for three months, ceased to regurgitate his food immediately; and in a few days well-formed stools were passed, and the bodily condition of the patient rapidly improved. He lived four months after the operation, a period of time exactly equal to that of Billroth's first resection. Of 13 cases operated on, 9 have died at periods varying from 8 hours to 4 weeks; hence the proportion of recoveries is about  $30\frac{3}{4}$  per cent. Of 11 cases operated on for carcinoma, 3 recovered, or  $27\frac{1}{4}$  per cent. Of the first 13 cases of pylorotomy, 3 recovered, or 23 per cent.—In cancer of stomach not producing stenosis, give anodynes in quantities sufficient to relieve distress, and do not operate. Pylorotomy for carcinoma is followed by 76 per cent. mortality; hence it should only be very exceptionally performed—in those cases where, with marked stenosis, the pylorus is not adherent to the neighbouring organs, and the patient is young and fairly strong. In other cases of carcinomatous stenosis, as only very temporary benefit can be obtained, perform gastro-enterostomy. In cicatricial stenosis perform digital divulsion, but, if this is impossible, owing to great thickening of the walls, resection in those who are well nourished, and gastro-enterostomy in the debilitated, will both be followed by good results. In the opinion of the writer, hemorrhage or perforation from ulcer or other cause than stenosis does not present indications for pylorotomy. Duodenostomy, gastrostomy for the passage of a tube, and complete gastrectomy, should all be replaced by gastro-enterostomy. (Dr. Winslow, *American Journal of Med. Sciences*, April, p. 359.)

[Remarks on Pylorotomy by Dr. Winslow will be found at page 283 of this volume.]

**GASTROSTOMY.**—I know no form of lingering agony which can be greater in intensity than that slow process of starvation which follows, not unfrequently, upon malignant diseases of the tongue, pharynx, œsophagus, or cardiac orifice of the stomach; and yet, until within times so recent that almost the youngest of you can remember them, we have been powerless to help such unfortunate sufferers, or to assuage the consuming hunger and thirst by which life is made ceaseless torture to them. Since, however, we have gained more confidence in attacking the peritoneum, we have learned that an artificial opening may be made into the stomach without any very serious risk; and



that, through such an opening, food already peptonised, and otherwise so far chemically disintegrated as to be ready for admixture with the duodenal secretions, and for subsequent absorption, may be introduced, so that actual death by starvation may, in such cases, be averted. Upon this subject of gastrostomy, I entertain no doubt, and I have as little that, when its full benefits come to be appreciated as they deserve, it will be much more frequently resorted to than it has been, and that, instead of there being only one Alexis St. Martin in the world, fistulous openings into the stomach will have become so numerous that they will cease to present features even of novelty; and that patients, otherwise condemned to a most painful and lingering death, by the mechanical obstruction to the ingestion of food *per vias naturales*, may yet be enabled to lay down their lives amidst something like serenity and peace. With a view to effect the same purpose, other novel proceedings have, of late, been proposed, and occasionally carried into practice. Thus, on the same principle that other sphincters, the sphincter ani, the neck of the bladder, the orbicularis palpebrarum, when affected by spasm, by hypertrophy, or both, provided the disease be non-malignant, have been treated by forcible stretching or by division, to set them at rest, so the pyloric sphincter has been also treated. Professor Loreta, of Bologna, does not hesitate, in such cases, to incise the stomach, and, introducing his fingers into the pyloric or cardiac orifice, as the case may be, forcibly to dilate it, and he reports some half-dozen cases successfully treated in this way. I have never performed this operation myself, nor have I seen it performed, but I can accept it as correct in principle; and, in any very grave case of dilatation of the stomach which failed to yield to the siphon-tube, I would either perform it or sanction its performance with full hope of success. (Mr. C. G. Wheelhouse, Con. Surgeon to the Leeds Infirmary, British Med. Journal, April 18, p. 767.)

**HEMORRHOIDS.**—*Removal by Torsion.*—The patient being prepared by having had the bowels emptied by the repeated use of gentle aperients for some days, rather than by one large dose on the previous day, and also, an hour before operation, by an injection of glycerine and warm water, he is placed in the lithotomy-position, and the limbs secured with anklets and wristlets in the usual way. The first thing is to dilate the anus, and to draw down so much of the lining membrane of the bowel, with the enlarged veins beneath it, as will enable us to judge accurately of the size and limits of the growth. The dilatation is performed by passing an ordinary bivalve rectal speculum well into the bowel, expanding the blades; while so expanded, the instrument is withdrawn, and with it the mucous membrane, if it be at all loose. If it have already descended somewhat, it can be more

completely drawn out by two or three such manipulations. This done, and the prolapsed bowel so produced being held outside the anus, the surgeon must proceed to snip through the skin with the scissors just within the line of junction between skin and mucous membrane—that is, in the mucous membrane itself—passing round the bowel, except, perhaps, at one or two places where the continuity of the circle thus formed may be interrupted by leaving uncut little bridges of the muco-cutaneous membrane. This is not needful if the cutaneous tissue around the anus have been much relaxed; but, if it be at all tight and unyielding, it is prudent to do so, to prevent the formation of an uninterrupted annular cicatrix, which, by its firmness, might interfere afterwards with the free expansion of the anal orifice. After cutting around the anus in this manner, going on more and more deeply in every succeeding circuit, the scissors will enter the cellular space between the mucous membrane and the muscular wall of the lower part of the rectum. We know that this has taken place, when we see the muscular fibres; and we take care not to go too near to the mucous membrane, or to cut through it. As this is being done, we observe the hemorrhoidal growths lying on the exterior surface of the separated inner cylinder. Here and there in this cellular space a small vessel may be wounded; if this be done, as we watch carefully the effect of each clip of the scissors, it is easy to seize the bleeding point with Sir Spencer Wells's very useful pressure-forceps, and to stop the bleeding for the moment, or we may twist the vessel then and there. Having thus separated the mucous cylinder from its attachment with the hemorrhoidal enlargements and the companion vessels, we divide it into several smaller portions, each of which shall contain a bunch of vessels as an hemorrhoidal growth. These being isolated by one or more cuts only in the mucous membrane, the surgeon may twist each off separately with torsion-forceps, properly curved and fashioned, having made his incisions at the base narrow enough for that purpose, any bleeding having been previously arrested by the means already mentioned. When two or three of these small masses have been so removed, the surgeon must seize the mucous membrane left above them, and sew it by means of curved needles, which serve as hooks to draw down the mucous membrane, as well as to pierce the skin around. If the mucous membrane be not secured in this way, before all the masses have been twisted off, the operator would lose command over it, and it might slip out of convenient reach. This plan, which is Mr. Whitehead's suggestion, is of very great practical importance. When the last hemorrhoidal mass has been thus separated, and the mucous membrane has been fixed to the skin, not too tightly, lest the suture-holes might ulcerate too soon, a



perfect ring is formed at the orifice of the bowel, with some eversion or out-rolling of the mucous lining, which is useful in determining the escape of the discharge from the rectum while the parts are healing. It secures this important point, that, the only part from which hemorrhage can arise after the operation being in the space between the mucous cylinder and that one formed by muscular structure, all the bleeding that may occur subsequently will be external and visible; and therefore, if needful, proper measures can be had recourse to for its control. The next step is to place a morphia suppository within the rectum, and lodge it high up in the bowel by a proper instrument; and then, finally, to smear all the divided surfaces with the carbolated oil. The after-treatment of the case, locally, consists in the free and persistent application of the oil to the part, so that it may serve as a means of protection from the air and from the irritation or poisonous action of any of the discharges from the bowel; and it will be found to be as successful here as in the after-treatment of cases of operation for rectal fistula. In conclusion, the author observes: "I will not go into the merits of this mode of operating, as compared with other methods. I will only say I believe it to be a very safe method, and very effective. It is a tedious operation—that is to say, it takes much time; but, if rapidity in operating be no longer our test of excellence, I am sure the removal of internal piles by torsion will meet the approval of any who will give the operation a fair trial." (Prof. E. Lund, Victoria University, British Med. Journal, June 27, p. 1286.)

*Hemorrhoids.—Treatment by Excision.*—Excision as a method of operative interference in the treatment of hemorrhoids is in itself no new procedure; indeed, some of the older surgeons seem to have given to it the preference over all other operative measures. Lizars, in his "System of Practical Surgery," describes and figures the removal of hemorrhoids by excision which he and Dupuytren, Lisfranc, and others, preferred to the alternative methods then in use. Lizars appears to have entertained a special objection to the use of the ligature, and cites an instance in which it was apparently the cause of tetanus. It is none the less true, however, that excision has subsequently so far fallen into disuse that it is now practically ignored by most surgical writers, or, in other cases, is simply referred to as opposed to the recognised rules of surgery. Mr. Whitehead has adopted excision as conforming in its principle to the best surgery, and in practice giving the most favourable results of all operative measures for the removal of hemorrhoids. In doing so, however, he has done much more than merely re-introduce an old form of treatment, for he has so far methodised the operation that the really important objections to its adoption seem to have been



removed. The old mode of excision meant leaving an open surface to heal by granulation ; the objections to this being that not only was an open wound left to heal up slowly, but, further, the healing of this wound was followed by contraction often enough leading to stricture. Mr. Whitehead's method leaves no open wound: the edges of skin and mucous membrane are at once brought into accurate apposition ; healing by first intention is secured ; the bond of union is a mere line of cicatricial tissue ; subsequent stricture is unknown. This securing of a clean incised wound and of healing by first intention seems decidedly preferable to the results of the application of the ligature or of any one of the various clamps. Not unfrequently I have met with cases in which persistent ulcerations, even more objectionable than the hemorrhoids which they replaced, have followed the use of the ligature and clamp. The method of excision has, however, a more important advantage—viz., that by it the whole ring of veins in the region of the hemorrhoids is removed and a practically healthy anal region results. When piles are dealt with individually, as by the ligature or the clamp, the adjacent venous trunks in what may be regarded as a zone with hemorrhoidal tendencies have thrown upon them the work of the destroyed venous channels, and, as a consequence, their tendency to hemorrhoidal protrusion is aggravated. The case I have recorded is a fair example of many in which the reappearance of piles after the use of the ligature or the clamp has necessitated further treatment. In this case ligature of the existing hemorrhoids had been performed by an experienced hospital surgeon, yet in about twelve months' time fresh hemorrhoids appeared, and the patient, to use his own expression, was as bad as before the operation. Complete excision is, I believe, infinitely less liable to be followed by reappearance of piles than are other methods of operative interference. Judging from the results of excision in other cases of hemorrhoids, as seen three years after operation, I regard my patient as practically safe from any further development of piles. At the present time, eight months after operation, the anal region appears quite normal and no trace of hemorrhoids is distinguishable. In other respects excision compares favourably with the ligature or the clamp. Recovery after excision is as rapid, whilst it is less painful, and the immunity from reactionary and secondary hemorrhage is quite as great as after the use of the clamp or ligature. On the other hand, excision is a more tedious and more difficult operation, and it is accompanied by hemorrhage during its performance. This, however, I have never seen give rise to any special difficulty, whilst the increased trouble entailed is more than compensated for by the result. (Mr. A. H. Young, Surgeon to the Salford Royal Hospital, *Lancet*, July 11, p. 60.)

*Hemorrhoids.—Treatment by Injection of Carbolic Acid.*—Dr. C.

B. Kelsey contributes a paper on this subject to the American Journal of Medical Sciences for July, 1885, which, he says, is written in response to many inquiries whether he is still in favour of the method of treatment by injection of carbolic acid, which he advocated in his book published in 1884. In a period of a little over two years Dr. Kelsey has been called upon to treat no less than 200 cases of hemorrhoids, and in only two of these cases has he found himself compelled to resort to any other procedure than injection. Dr. Kelsey uses carbolic acid solutions of 15, 33, and 50 per cent., and in some cases the pure acid, according to the severity of the disease, in the severer cases using the stronger and in the milder the weaker solutions. The injection is performed upon different tumours at varying intervals. In one case recorded, fourteen injections were performed in three days. The maximum period occupied in the cure of a bad case is from ten to fourteen weeks. The injection often caused sloughing, but the amount of sloughing was always directly proportional to the amount and strength of the injection. Patients operated upon say that the pain of the procedure, as a rule, is not greater than that caused by the ordinary hypodermic puncture. For a couple of minutes there was a smarting, tense feeling, and after that no sensation whatever. This has been repeated six or eight times till the patient was cured, and the intervals between each injection were passed in absolute comfort. One patient fainted on the table from the first injection. Dr. Kelsey's experience of pain after the use of the ligature seems to us to be quite exceptional. He says: "I have never seen worse pain, lasting sometimes a week, than that operation can cause." Dr. Kelsey refers to Allingham and some other writers, who strongly condemn the use of carbolic acid injections in the treatment of hemorrhoids. The author quotes from a paper by Dr. Matthews, of Louisville, who declares the proceeding to be painful, insufficient, and liable to cause death by peritonitis, embolism, and pyæmia. Dr. Kelsey's experience is entirely opposed to this, for he says: "In no case have I had an accident of serious nature; never any signs of embolus; never any serious sloughing or inflammation; no trace of pyæmia or hemorrhage." The 200 cases upon which the paper is based are all spoken of as "cured." (ED.)

**HERNIA.**—*Radical Cure.*—It appears indubitable, from the results of the last twenty or more years' experience of the radical cure of hernia, that the position of those surgical writers who have maintained that the radical cure should not be attempted, except in the severest cases, is untenable. The operation has given as great relief and exemption from the minor troubles and worry which make life miserable as any operation associated



with prolapse, such as hemorrhoids, and is even more safe. It is certainly quite as much called for, on the score of relief from pain and inconvenience, as most other abdominal operations. Though it may not, like ovariectomy, remove the certainty of a speedy death, and may, like colotomy, be called an operation of convenience or expediency, it often relieves suffering as severe as that for which colotomy is performed, and is attended by far happier results. The justification of the operation being admitted, it remains to consider what cases are most appropriate for it, and which of the many we have passed in review is most proper and applicable for the cases chosen. The rules I have observed in my own cases have been as follows:—The subcutaneous plan has been adopted. 1. In cases of children above five years old, in whom trusses are useless and unavailable because of neglect, violent coughing and crying, sore groins, rapid increase in the size of the hernia, and interference with micturition. 2. In cases of young adults, or boys under 14, whose prospects in life as candidates for the naval, military, or engineering professions, or for colonising, are seriously impaired by the hernial condition. Such persons may be far from surgical assistance when the exigencies of duty or occupation may produce strangulation, or the breakage of a truss may leave them defenceless; they are subject, also, to increased life-assurance-rates, from which the operation, when successful, relieves them. It should be done in able-bodied working men, generally, whose various laborious employments may place them continually in danger of strangulation, and whose strength and usefulness are impaired by the hernia. The extent of the necessity for a radical cure of rupture, and the patriotic and social motives which demand it, are clearly made manifest by the estimates of the number of recruits and conscripts rejected for this complaint. Malgaigne states that one in every 13 Frenchmen is ruptured; Arnaud, one in every eight. During the civil war in the United States, 38,132 were rejected in two years. In this country, it is said that one in every 20 males is ruptured. The bodily ailments and mental worry which this condition and its consequences entail upon this large number of human beings, make up a very impressive total of suffering. And the mortality from it must be also considered. In 1879, according to the Registrar-General's reports, as given by Mr. Spanton, no fewer than 1,119 deaths occurred from hernia, of which 23·5 per cent. had undergone operation for strangulation, &c. The average rate of mortality of the operation of kelotomy in 11 large hospitals is given by the same author as 41·8 per cent. The proportion of the mortality from hernia increases with age to a marked degree. The importance of a permanent cure effected during youth for so large and useful a class as this, when thus viewed,



risers to the point of a national demand. 3. In reducible cases, where the sac is thick and indurated from truss-pressure, or where the omentum is continually slipping down under the truss, showing thereby that it is abnormally elongated, I open the sac, tie the vessels of the omentum separately, and remove it below the ligatures; tie up the neck of the sac flush with the peritoneum at the deep hernial opening, and apply wire or tendon-ligature to the canal and rings. When, from any cause, a first operation fails in effecting a satisfactory cure also, I open the sac, inspect its interior to discover any special cause for the failure, tie and remove the sac, and lace up the canal and rings with especial care and security. 4. In all favourable cases of strangulated hernia, both inguinal and crural, the coverings and front wall of the canal being necessarily divided to search for the constricting tissues, I open the sac, examine the contents, remove adhesions and doubtful portions of omentum, then tie up the neck of the sac, cut it off short, and remove it altogether (except in congenital hernia), and secure the walls of the canal and rings, as in the subcutaneous method. Of course, a wrong diagnosis of the condition of the bowel or omentum, and of their fitness to be returned into the abdomen, or some other cause arising from the strangulation, may, in these cases, result in a fatal issue. But I believe strongly that, if drainage be free, and skilfully arranged, no increase of risk ensues from the attempt to produce a radical cure. Quite lately I have done this in a case of *reductio en bloc* in a man who is now convalescent in the hospital. 5. Cases of irreducible hernia, and of large and unmanageable cases of reducible hernia, in patients otherwise in a good state of general health, and not above the age of 60, and in which truss-pressure entirely fails to render the patient comfortable and free from danger, seem to me to justify and to require operation, if the patient wish for the benefits which he may reasonably expect from a carefully conducted operation, under strict antiseptic methods. In all cases he should have the chances fairly laid before him, in a way that he can understand, and then have the option without bias or persuasion. In these cases, as in the last class, the operation necessarily assumes more or less of the character of an open operation under spray. The sac is freely opened, and is tied and removed, but the suturing of the canal and rings is effected as in the subcutaneous method. (Mr. John Wood, Hunterian Prof. of Surg. and Pathology, British Med. Journal, June 27, p. 1283.)

*Hernia.—Radical Cure by Ligature of the Neck of the Sac.*—Mr. Hardie says the majority of surgeons appear to be coming to the conclusion that, of the various operative procedures which have been devised for the cure of inguinal hernia, ligature of the neck of the sac and approximation of the pillars of the canal, after

exposure of the parts by open incision, is to be generally preferred. Mr. Hardie proposes what would appear to be substantial improvements upon the practice hitherto followed in the manner of applying the ligature especially, and also in some other minor points. The ligature should, he says, be made to include not the peritoneum alone, but also the transversalis fascia, which can usually be recognised as a structure of considerable substance in the coverings of the sac. By this means the resulting cicatrix is of a much firmer texture than if the thin serous membrane alone is made use of, and thus the chances of subsequent bulging and the re-establishment of the hernia are much reduced, and, according to Mr. Hardie's present experience, in a certain proportion of cases entirely obviated; and the operation becomes more frequently what it is really intended to be, a radical cure. The general principle underlying all operations of the kind referred to is the establishment of an inflammation of sufficient extent and intensity to produce as nearly as may be a consolidation of all the immediately contiguous structures in the track of the hernial protrusion. (Mr. James Hardie, p. 274.)

*Hernia.—Treatment of Omentum in Operation for Radical Cure.—*

Mr. Southam, in discussing the various modes of practice which have at one and another time been followed in regard to the treatment of strangulated omentum, suggests that that structure should be utilised in attempts to close the hernial opening by transfixing its pedicle and the neck of the sac with the same ligature, and so ensuring the incorporation of the omental stump in the cicatrix, upon the substance of which the chances of a radical cure entirely depend. This procedure is more easily accomplished in cases of femoral than in cases of inguinal hernia. Mr. Southam gives two illustrative cases from amongst several in which he has performed the operation, without any untoward symptoms supervening. (Mr. F. A. Southam, p. 277.)

**INTESTINAL OBSTRUCTION.**—The conclusions at which I have at present arrived, based on my own experience, on post-mortem records, on recorded cases, and on the cases mentioned in this paper, are these:—1. In chronic cases—that is, where obstruction is the prominent symptom—medical treatment, such as injection, belladonna, massage, galvanism, etc., will often relieve or cure; or colotomy or laparotomy, or some other operation, will be so plainly indicated as to leave no doubt as to what should be done. 2. In acute symptoms supervening on chronic, medical treatment—for example, starvation, rest, and opium—may still often bring about a cure; but laparotomy, as a means of diagnosis, and possibly of treatment, may be demanded. 3. In initially acute cases, delay is often as dangerous as it would be to wait for an



external hernia to reduce itself by its own efforts. I believe that laparotomy (which in itself is not a dangerous operation) should be performed early—(a) as a means of making a diagnosis; (b) as a means of removing the cause of strangulation if such be discovered; (c) as a means of giving relief, if no cause can be found, by opening the bowel above the point of obstruction and carefully suturing it to the surface. (Mr. Mayo Robson, Leeds, British Med. Journal, Aug. 29, p. 392.)

*Intestinal Obstruction.—Washing out the Stomach.*—Dr. A. Makushin reports the case of a previously healthy labourer, aged 55, in whom there suddenly appeared abdominal pain, tympanites, and vomiting. The symptoms daily grew worse. On the fifth day vomiting became fæcal, and agonising hiccough supervened. No defæcation was obtained during ten days, in spite of large water and air enemata. Following the recommendation of Professor Kussmaul, the author tried daily washing out the stomach through a gastric tube, using each time about eleven fluid pounds of water, divided into two portions. After the second washing, vomiting ceased, hiccough and abdominal swelling diminished, and an enema now produced stools (for the first time, on the twelfth day of the disease). After a third washing out and another small enema, the patient recovered. (London Med. Record, April, p. 148.)

*Intestinal Obstruction.—Laparotomy.*—In opening the abdomen for the relief of acute intestinal obstruction, the following rules should be observed:—1. Make the incision in the middle line below the umbilicus. 2. Fix upon the most dilated or the most congested part of the bowel that lies near the surface, and follow it with the fingers, as a guide to the seat of obstruction. 3. If this fail, insert the hand, and carry it successively to the cæcum, the umbilicus, and the promontory of the sacrum. 4. If this again fail, draw the intestine out of the wound, carefully covering it, until increase of distension, or congestion, or both, in one of the coils, gives an indication that the stricture lies near. 5. If there be considerable distension of the intestines, evacuate their contents by incision, and suture the wound. Never consider an operation for intestinal obstruction inside the abdomen finished, until the bowels are relieved from over-distension. 6. Be expeditious, for such cases suffer seriously from shock. The whole operation ought to be concluded in half-an-hour. (Mr. J. Greig Smith, p. 248.)

*ICTERUS NEONATORUM.*—The common form of infantile jaundice is but seldom fatal, and has nothing in common, except in name, with the fatal forms. It is first observed on the second or third day after birth, is especially common in premature and weakly infants, and disappears, without any bad symptoms having



manifested themselves, in the course of a week or ten days. Dr. Ashby is inclined to adopt Quincke's explanation of the occurrence of jaundice in the newly-born, namely, that it is due to delayed closure of the ductus venosus, which permits the passage of portal blood containing bile pigment directly into the hepatic veins. (Dr. Henry Ashby, p. 187.)

**RECTUM.**—*Examination of in Cases of Obstructive Disease.*—In searching for obstructive disease of the rectum, the surgeon may pass his finger into the rectum in such a case, move it freely about within its cavity, withdraw the finger, and say that there is no obstruction, that it is rather a large loose rectum, and, if there be contraction, it is high up and beyond reach. An opinion may also be expressed that the cause of the obstruction is not organic, but rather functional, as far as the rectum is concerned, for it is large and loose. A more careful examination would show that the enlarged, almost dilated, condition of the rectum, just within reach of the finger, was caused by an obstruction higher up in the bowel, which, by its resistance to the passage of the fæces, had caused such violent expulsive efforts to be made that there was a descent of the obstructed portion of the bowel into the part below, which became thereby stretched and dilated. There had been, as it were, a sort of commencing intussusception, or involution of the bowel, and the dilated part below the contraction had conveyed the idea to the finger of the surgeon, in making his examination, that the bowel higher up was also large and loose. This dilated state of the bowel just within the anal orifice must, then, be regarded as a sign of rather doubtful import, and as no proof of the natural patency of the canal higher up, and perhaps just beyond the limits of examination. We cannot afford to wait until, by the increase of the contraction, and the distension of the bowel above it, we have revealed its true position; for the sooner we learn that we have to do with mechanical obstruction, or with atony of the lower bowel, the better for our patient. The evidence supplied by the use of a bougie in a case of this kind is not always conclusive. The bougie may impinge upon the front of the sacrum, or, if this bone be more than usually curved, may strike against the upper projecting part of it, and so, failing to pass, simulate the presence of contraction. It may also have its extremity caught in a fold of the mucous membrane, and there, resting awhile, may bend upon itself, still apparently passing on into the interior. In suspected cases of disease of the rectum much may be learnt, as a preliminary sign, by observing the exact condition of the anus in reference to its size and distance from the surface of the perineum, estimated in relation to a transverse line between the tubera ischii. Unless there be, in any given case, some natural peculiarity of formation, it will generally

be found that, where the cause of the trouble in the lower bowel is rather one of irritation and spasm than of relaxation and debility of the parts, when the patient is examined on his side, the anus will be seen to be contracted and drawn high up in the perineum, which has therefore a conical configuration, and the anus is held there by undue action of the levator ani, and the closing fibres of the sphincter. There is often, however, an opposite condition of things; the perineum, in its anal portion, may be unusually flat, the anus low down, large, and protruding; and this will indicate, not spasm or over-action of the levator, but a relaxed condition which permits a falling of the bowel, and its passive dilatation, with the commencement, possibly, of slight prolapsus of the gut. (Prof. Edward Lund, British Med. Journal, June 27, p. 1284.)

**SALINE CATHARTICS.**—*Mode of Action.*—The conclusions arrived at by Prof. Matthew Hay, as the result of an experimental investigation of the physiological action of certain saline cathartics, are of much interest, and are deserving of careful study and consideration. His experiments were made chiefly with sulphate of soda, sulphate of magnesia being used only occasionally; but these salts are sufficiently typical of the whole group to justify the belief that, had other members been chosen, similar results would have been obtained. In the first place, it was found that a saline purgative always excites more or less secretion from the alimentary canal, depending on the amount of the salt and the strength of the solution employed. This excito-secretory action is probably due to the bitterness as well as to the irritant and specific properties of the salt, and is not simply the result of osmosis. The low diffusibility of the salt impedes the absorption of the secreted fluid, so that, as a result of the stimulated secretion on the one hand, and the impeded absorption on the other, there is an accumulation of fluid in the alimentary canal. This fluid, partly from ordinary dynamical laws, partly, perhaps, from a gentle stimulation of the peristaltic movements excited by distension, reaches the rectum, and so gives rise to purgation. It is found that purgation will not take place if water be withheld from the diet for one or two days previously to the administration of the salt in a concentrated form. This is due not to the absence of water in the alimentary canal, but to its deficiency in the blood. Under ordinary conditions, with an unrestricted supply of water, the maximal amount of fluid accumulated within the canal corresponds very nearly to the quantity of water required to form a five or six per cent. solution of the amount of salt administered. Consequently, if a solution of this strength be given, it does not increase the bulk. If a solution of greater strength be administered, it rapidly increases in volume until the maximum is attained. After the



maximum has been reached, the fluid begins gradually and slowly to diminish in quantity. The more voluminous the solution of the salt administered, the more quickly is the maximum within the canal reached, and the more quickly will purgation follow; a point of considerable practical importance. The secretion excited by saline cathartics is a true *succus entericus*, the fluid being poured out from the intestines, and the bile and pancreatic juice participating to only a very slight extent. Saline cathartics do not purge when injected into the blood, nor do they purge when injected subcutaneously. The salts have no specific action in lowering the internal temperature of the body, although they may reduce the absolute amount of heat. (British Med. Journal, June 6, p. 1061.)

SPHINCTER ANI.—*Subcutaneous Division of*.—Mr. Pick strongly recommends this method of suspending the action of the sphincter, as superior either to forcible stretching or direct division, in cases where the last two methods have hitherto been followed. The author cites a case of “spasmodic neuralgia of the anus,” a case of ulcer of the rectum, and three cases of piles, in which subcutaneous division was practised with completely satisfactory results. Three ends are attained by this method: (1) A complete division of the whole muscle, and therefore a more certain result; (2) A small puncture instead of a large wound, and therefore more rapid healing; (3) A subcutaneous wound, and less chance of septic absorption. (Mr. T. Pickering Pick, p. 288.)

TAPE-WORM.—*Kooso*.—In my hands, kooso has been decidedly most efficient—that is, having failed with everything else and having succeeded with kooso, it has naturally become the remedy with which I always begin the treatment. It is the dried flowers and immature fruit of the *Brayera anthelmintica*, a tree native to Abyssinia. It is given in the form of a powder, and the only objection to it is its bulkiness. The dose is laid down as a half to one ounce of the powder in half a pint of water. I prefer to give the larger dose, for it is harmless, except in pregnancy, and I am sure that failures are often due to the smallness of the dose administered. Kooso is said to have produced miscarriage; therefore, it should not be given to pregnant women. Patients require some preparation before any remedy is employed. I always tell them to eat nothing from noon of one day until the next morning, when one ounce of kooso in half a pint of water is directed to be taken. If at the end of six hours no movement of the bowels has taken place, a promptly acting aperient, as a dose of oil, compound jalap powder, or elaterium, is taken, but generally kooso requires no purgative after it. This usually brings away the worm entire. Of course, you are never certain



that you have the entire worm until you find the head. At the same time, it does not follow because the head cannot be found, that you have failed to remove it, for it is very small, and may have been lost in the discharges. As I have said, in the *tænia solium* the head is about the size of a small pin's head; in the *mediocanellata*, it is somewhat larger, and in the *bothriocephalus latus* it is still larger. If the head has not been removed, you may be certain that in a certain length of time the worm will grow out again. This varies from ten to sixteen weeks. Instead of kooso, the resin which it contains, called *koosin*, may be given; but I have had no experience with it. The dose is 20 to 40 grains enclosed in a wafer. (Dr. Tyson, p. 190.)

**ULCER OF THE STOMACH.**—In this affection absolute rest in bed is generally indicated, although I am by no means prepared to deny that many can, and do, recover without it. Here the diet must be of the simplest kind, given in small quantities, and at short intervals; and a good rule for our guidance is, that *anything which causes pain or sickness*—and this remark applies almost universally to all affections in which these symptoms are present—is injurious. Milk, in combination with lime, Vichy, or seltzer water, and well iced, is usually the best; or if this does not agree, butter-milk or koumiss, or peptonised farinaceous food (such as that prepared by Savory and Moore), or what is known in commerce as “Solution of Meat,” may be tried; the quantity administered at a time being reduced to the point at which it occasions no discomfort. Even a teaspoonful may be all that can be borne at once, and it is much better to give a very small quantity which is retained than a larger amount which disagrees. In extreme cases, the best practice by far is for a time to suspend the administration of food by the mouth altogether, and to feed the patient *per rectum*, allowing him, however, to slake his thirst by sucking a small piece of ice occasionally. The enemata, which I have latterly been in the habit of using, are Savory and Moore’s “nutritive enema” and “Carnrick’s beef peptonoids.” Leube’s meat-pancreatic clysters—a solution of meat treated with pancreatine—are also worthy of trial. But it must never be forgotten that feeding *per rectum* is only a temporary expedient, with the view of giving perfect rest to the affected organ, because the co-operation of all parts of the digestive tract is required; Voit and Bauer having shown that the rectum is only capable of absorbing about a quarter of the albumen necessary for the maintenance of life, with the addition of fat or hydro-carbons. In many cases of ulceration, sedatives, such as small doses of morphia with bismuth and hydrocyanic acid, are valuable; but constipation is apt to be induced or aggravated by such medication; and then they may be combined with

the use of the alkaline aperient above mentioned, or resort may be had to the black oxide of manganese—a gastric sedative [not so well known, which was introduced by the late Dr. Leared, and which, in doses of 10 grains, has proved most useful in my hands for this and similar conditions. In chronic cases, small doses of arsenic—from one to two minims of Fowler's solution three or four times a day—often yield the best results. (Dr. McCall Anderson, Glasgow Med. Journal, March, p. 161.)

### AFFECTIONS OF THE URINARY AND GENERATIVE SYSTEMS.

**ALBUMEN.**—*Magnesium-nitric Test.*—In the first number of the Medical Chronicle, Oct. 1884, Dr. Wm. Roberts suggested a modification of the nitric acid test for albumen in the urine, whereby the great advantages of that acid as a test would be retained, but its disadvantages minimised. This test solution consists of one volume of strong nitric acid and five volumes of a saturated solution of sulphate of magnesia. The mixture is quite colourless and of high specific gravity, so that it is very suitable for testing by the method of contact. It is used exactly as the nitric acid test, of which it is to be considered simply a modification. The best method of performing the test is to pour about one drachm of the test solution into a test tube, and then carefully pour on to it the urine under examination. In adding the urine the test tube should be held as nearly as possible horizontal, and the urine allowed to trickle slowly down the sides of the tube, so as to avoid as much as possible a free mixing of the urine with the test solution. It is very necessary that great care be taken in adding the urine, because, if the two fluids are freely mixed, it becomes impossible to say whether any precipitate that ensues is albumen or mucin, whereas if care be taken in adding the urine, albumen and mucin are precipitated at different points. If albumen is present, a well-defined band will be formed immediately at the line of junction of the two fluids; the depth of this band and its degree of opacity will vary according to the amount of albumen present, but in all cases it appears exactly at the point mentioned, and is sharply defined, resembling the band which is formed with the ordinary nitric acid test. Usually the reaction develops at once, but where the amount of albumen is very small, a short time must be allowed to elapse before the absence of albumen is declared; however, even in these cases, the reaction develops more quickly than with nitric acid alone, and it is certainly more prompt. Further, it is a most delicate test; it is not at all uncommon to meet with a urine where no reaction is developed by nitric acid even on standing several minutes, while the magnesium nitric test gives a faint but yet distinct reaction at once. But it will be asked,



How do we know that such a urine does really contain albumen? Why may not this reaction be produced by some other substance? The proof is that in the majority of cases heat gives a reaction for albumen even in those cases where nitric acid fails, but the magnesium-nitric test succeeds. Not only is this modified test more delicate than nitric acid alone, but it presents certain further advantages over the pure acid. It has been already stated that it does not corrode, and that it does not burn the fingers. As we know, when a patient is taking an iodide preparation, the nitric acid test acts at a great disadvantage, in consequence of the liberation of iodine which colours the urine, and when only a small quantity of albumen is present this quite obscures the reaction; the magnesium-nitric solution, however, liberates hardly any of the iodine, and so can be used in the above cases. The same remark applies to urines containing biliary colouring matter. (Dr. Thomas Harris, Manchester Royal Infirmary, Medical Chronicle, Sept., p. 459.)

*Albumen.—Picric Acid Test.*—Since so many discordant opinions have been expressed as to the value of this, and as the difference of opinion has been attributed to a faulty method of applying it, I may say, that I followed closely the directions given by its strong supporter, Dr. Geo. Johnson. In the majority of cases its results are perfectly satisfactory, and it detects a very minute quantity of albumen; but I feel sure that, occasionally, it gives no indication of the presence of albumen, when a small amount is undoubtedly present, as shown by other tests; and still more frequently does it give a reaction which is indistinguishable from that which a trace of albumen produces, but which is not due to albumen. Now such a reaction, which is certainly not due to urates, which may be easily distinguished, as Dr. Johnson states, by heating the mixture, is I believe due to the presence of mucin. I am aware that it is stated that picric acid does not precipitate this substance, and it is only from carefully investigating the point that I feel justified in venturing to give a contrary opinion. I believe that mucin may be present in the urine, and that in considerable amount, and yet picric acid gives no precipitate, but, on the other hand, other specimens of urine containing mucin, and no albumen, give a reaction with picric acid which cannot be distinguished from that produced when albumen is present. The explanation of this difference in the behaviour of two specimens of urine, which contain about the same quantity of mucin, but the one giving a precipitate with picric acid, while the other does not, I am not able to give; possibly it may be due to the different amount of salts which the specimens contain. That picric acid, however, does precipitate mucin, any one may convince themselves by preparing that substance, for instance from ox gall, and adding it to a healthy specimen of urine. It



will then be found that picric acid gives a marked cloudiness which is not dissipated by heat. (Dr. Harris, Med. Chron., Sept.)

*Albumen.—Ferrocyanic Test-pellets for.*—These pellets afford a ready, portable, reliable, and delicate clinical test for albumen. They require no spirit lamp to be employed, and supply information which can be accepted without needing the application of any other test for correction or corroboration. When albumen is present it does not fail to be indicated by the production of a precipitate; and, on the other hand, when a precipitate is produced, albumen, as far as I yet know, is the only principle that occurs in the urine to occasion it. With these qualities the ferrocyanic test commends itself as specially adapted for general use in medical practice. (Dr. F. W. Pavy, p. 203.)

*Albumen.—A New Method of Testing for.*—This method consists simply in the use of the syringe for the purpose of effecting that apposition (without intermixture) of the layers of urine and nitric acid which every method seeks to accomplish. Making sure that the piston of the syringe fits air-tightly, I just dip the end of the nozzle below the surface of the urine, and draw up a little. I now transfer it to the test-solution, of which I also suck in a small quantity; and you see how sharply this underlies the urine, producing in its lowermost part a narrow but well-defined cloud, which witnesses to the presence of albumen. (Dr. G. P. Best, British Med. Journal, June 13, p. 1298.)

*CYSTITIS.—Naphthaline.*—The prevention of decomposition is the most important matter in the treatment of cystitis. Decomposition of the urine increases the vesical inflammation by augmenting the irritation, and the more muco-pus is secreted the more favourable are the conditions for septic organisms. It is the vicious circle once more. A proposal of Rossbach to use naphthaline should receive careful and practical attention. According to him, one or two grains of this substance had a remarkable effect on a severe case of vesical catarrh, so that the decomposition of the urine was arrested in from two to three days. In less severe cases one or two days suffice to effect a complete cure. Even in tubercular disease of the urinary passages, complicated by disease of the lungs, the daily administration of five grains of naphthaline produced a notable diminution in the number of bacteria, as well as in the amount of deposit, and the sufferings of the patient were lessened. (Lancet, Aug. 22.)

*HÆMATURIA IN GRANULAR KIDNEY.*—Hemorrhage into the eyes and brain are amongst the commonest of incidents in the course of granular kidney, so much so that retinal hemorrhages are often recognised diagnostic value, while brain hemorrhages explain the apoplexy with which such cases not rarely terminate, and in both organs miliary aneurisms are frequently found. In the cases

in which the hemorrhage occurs actually in the kidney, it is possible that there is another explanation. It may prove to take place especially in those cases of granular kidney in which the cirrhotic change is most marked round the Malpighian bodies, and the bleeding may then possibly be the result of the mechanical obstruction to the circulation in the Malpighian tufts. But I know of no observations bearing on this point. On the whole, however, we may with greater probability regard the hemorrhage from the urinary tract as part of the general vascular changes which occur in this disease, and, if so, it is remarkable that hæmaturia is not of more frequent occurrence in granular kidney than it appears to be. (Dr. Samuel West, p. 200.)

**HYDROCELE.**—*Treatment by Antiseptic Incision.*—I desire to call the attention of practitioners to the fact that they should invariably adopt the method of free incision with strict antiseptic precautions, and I cannot understand why it is not more universally carried out. Every surgeon knows of the method, but, as far as I see, contents himself with adhering to the usual proceedings. There is no danger in it. An anæsthetic can be given if necessary, the healing is rapid, the cure almost certain, if not absolutely so. The operation is as follows:—The diagnosis of course being established, the scrotum should be shaved, and if the surgeon thinks necessary) the spray used, the tumour is firmly grasped so as to render the parts as tense as possible. A clean sweep through all the scrotal tissues is then made with the bistoury from the chord to the base, and the fluid escapes. Every bleeding vessel, however small, must be twisted or tied most scrupulously, and the interior of the sac carefully examined for any vessel which may have been wounded or have given way. The cavity should then, not too tensely, be stuffed with either lint soaked in 1 in 40 carbolised oil or gauze, and the upper part of the edges of the wound stitched together, including all tissues,—I do not see any advantage in stitching the cut edges of the sac to the sides of the wound,—a small tag of the contents being left out of the most dependent part on the contingency of drainage, a pad of salicylic wool placed over all, and the scrotum supported by a cushion between the thighs. In a couple of days the parts may be dressed (under spray, if thought desirable), and the contents of the sac withdrawn. As a rule considerable contraction of the walls of the sac will have set in, but it is advisable to still introduce the antiseptic material so long as any appreciable cavity exists, and this is generally for about a week in very favourable cases, when it will be found impossible to pass anything into it, and merely the lips of the original wound are left to close. Tubal drainage is, I venture to think, unnecessary. I have not yet met with any untoward constitutional symptoms by adopting this method, which is equally applicable



to encysted hydrocele of the cord. (Mr. E. Bellamy, *Lancet*, July 4, p. 12.)

**LITHOLAPAXY.**—*Cocaine as a Local Anæsthetic during.*—I had lately an opportunity of performing litholapaxy during anæsthesia induced by the injection of cocaine into the bladder and urethra. This having been followed by surprisingly good results, I have felt myself justified in making known my observations, more especially as I have not heard of other similar experiences. I do not doubt that they mark another step to the attainment of a bloodless method of operating for stone. The patient was a man of twenty-one years, who had suffered for four years from symptoms of stone. During this time a correct diagnosis of his condition had not been made. Examination revealed a hard rough stone of 2·5 cm. in diameter. He also suffered from severe purulent catarrh of the bladder, alkaline urine, high evening temperature, and notable disturbance in his general health. Owing to the small size of the stone and large calibre of the urethra, I decided to remove the stone by the operation of litholapaxy. Having disinfected the bladder by a solution of borsalicyl, I injected 40 grains of a 2 per cent. solution of cocaine into the bladder, and also 10 grains into the urethra. In order to bring this solution into contact with all parts of the bladder, the patient must assume by turns the prone, supine, and side positions. Six to eight minutes after having done this, I filled the bladder with 150 grains of a solution of borsalicyl, and then introduced the lithotrite. On attempting to crush the stone, it proved so hard that repeated gentle blows of the hammer were necessary to tighten the screw. The stone and its fragments were seized and crushed thirty-three times, taking twenty-two minutes in performance. During this time the necessary manipulations were absolutely painless, the patient asserting several times that he scarcely felt the movements of the instruments. Previously he had suffered severely from the introduction of a catheter. (Dr. P. Bruns, *Tübingen, Glasgow Medical Journal*, July, p. 35.)

**PROSTATECTOMY.**—Mr. Swinford Edwards, Surgeon to the West London and St. Peter's Hospitals, publishes a successful case of this operation for complete obstruction to micturition due to prostatic enlargement, mainly of the third lobe. The instrument used was Gouley's prostatome, an instrument much resembling in form a small lithotrite, by means of which one or more pieces were punched out of the obstructing mass. Beyond the passage of a little blood for two or three days after, no untoward symptoms followed the operation, and the patient seems to have been permanently benefited. The operation was originally described by Mercier of Paris in 1856. (Mr. F. S. Edwards, *Lancet*, July 11, p. 57.)



**SPERMATIC CORD.**—*Non-Malignant Tumours of.*—We call attention to an interesting lecture by Dr. Eben. Watson upon this somewhat obscure class of diseases, with special reference to their diagnosis from the various forms of hernia with which they are likely to be confounded. Some highly interesting and instructive cases are given. Dr. Watson draws special attention to the simultaneous affection of the pelvic subperitoneal connective tissue and the loose areolar tunic of the cord, pointing out how readily such a condition may be mistaken for a bubonocoele, or for what he believes to be a very rare condition, circumscribed hydrocele of the processus funicularis. (Dr. Eben. Watson, p. 294.)

**SUPRA-PUBIC LITHOTOMY.**—I am glad to find that Petersen's method of raising the bladder by distending the rectum with an indiarubber bag filled with fluid, as practised by Sir Henry Thompson, is giving an impulse to the high operation of lithotomy; it has always appeared to me that it is the operation best suited for the removal of large stones, and I have been surprised that it has not been more frequently practised. In the case of a lad on whom I performed it in 1848, I found no difficulty in reaching the bladder with the knife and the fingers, although the viscus was not distended, simply taking care to keep close to the ossa pubis after the linea alba had been cut through and the attachments of the recti muscles had been divided; and no ill consequences followed the infiltration of urine, which must have taken place to some extent. The lad quickly recovered, and four years afterwards, there being a recurrence of symptoms, I removed by the lateral operation three phosphatic calculi, one of which was adherent to the fore-part of the bladder, where the incision had been made into it in 1848. The patient soon recovered, and was quite well a year subsequently. Some of the papillomatous and other growths in the bladder, which cannot be removed through a perineal incision, might be extirpated if the bladder were opened above the symphysis pubis. (Prof. Humphry, *Lancet*, July 25, p. 146.)

[The paper by Sir Henry Thompson here referred to, will be found, in abstract, at page 308.]

**URETHRAL BOUGIES.**—*Use and Abuse of.*—Mr. Swinford Edwards concludes a clinical lecture upon urethral bougies, with the following rules for their employment:—1. Avoid being misled as to the presence of stricture by the deep perineal fascia. 2. Avoid the use of force in introducing an instrument. You will do more harm than good. *Apropos* of this, I will quote you a passage from Mitchell Banks, on diseases of the genito-urinary organs: "The one rock ahead is the desire which the hospital-surgeon (who must operate *coram publico*) has, even in the

present day, to get into the bladder at all costs. The unhappy patient being brought into the theatre before a crowd of students, the surgeon considers it a point of honour to get something—if only a No. 1—into the bladder. After 20 minutes' prodding, with all sorts of instruments, this No. 1 is finally jammed in; the surgeon triumphs, and the patient is led away, bleeding profusely, and possibly with a false passage. A week's rest in bed with hot fomentations to the perineum, would probably so have softened down this patient's stricture, that No. 3 or 4 would have gone in quite easily, to the great facilitating of further treatment." 3. Avoid hemorrhage if possible. Mr. Savory, in his paper "On Spasmodic Stricture of the Urethra," says: "Whenever blood follows the introduction of an instrument, is it not a sign that, in one respect at least, mischievous force has been employed?" To this I would reply, "Not always," as it is sometimes a necessary part of the cure, as when a patient is suffering from an obstructed urethra, due to a valve, wart, or bridle, the breaking down of which must necessarily be accompanied by a few drops of blood. It is in these cases that cure follows on the use of the bougie alone. I recollect the case of a graduate of Oxford who came to see me in reference to his stream of urine, which was diminishing in volume, and escaped forked. He had, in addition, pain in the bulbo-membranous urethra, on the passage of an instrument, and slight gleet. After passing a No. 22 *bougie olivaire*, on two occasions, my patient was cured. On each occasion, the passage of the instrument was followed by a drop or two of blood. I imagine that in this case some wart or bridle was broken down. 4. Avoid continuous dilatation—if interrupted is inapplicable to the case, practice, in preference, urethrotomy. Cystitis is caused by continuous dilatation, but cured by internal urethrotomy. 5. Avoid tying in a catheter after internal urethrotomy; pass a bougie on the second or third day. 6. Avoid instrumentation in purely spasmodic strictures. 7. Do not imagine that, because in a given case a so-called full-sized bougie, No. 22 or 25, passes easily through the penile urethra, there can be no stricture sufficient to set up a spasmodic stricture in the deep urethra, or to keep up a gleet. (Mr. F. S. Edwards.)

I would now offer the following advice:—1. Use great care in the introduction of all instruments; see they are smooth, clean, in good condition, and well lubricated, and, if of metal, warmed, 2. Always use soft elastic bougies, if possible, and see that the *bougie olivaire* has a pliant neck. 3. More benefit is derived from a bougie which passes easily through a stricture than from a larger one, which is tightly held, and requires force to send it through. 4. It is well, before passing a bougie, to give it a curve, the concavity of which, on introducing it, should look



towards the pubes. 5. When using a pilot bougie, always see that the screw is firmly fixed. After the bougie has been used several times, it is apt to become rotten at its junction with the screw. Should this be the case, on withdrawing the instrument through the stricture, the pilot might be left behind in the bladder, necessitating further prolonged operative measures for its removal. I once met with an accident of this kind, the pilot remaining behind in the bladder. I saw the patient two days afterwards, and, after performing internal urethrotomy for a stricture, was able to extract the bougie by means of a lithotrite. (Mr. F. S. Edwards, British Med. Journal, July 11, p. 55.)

**URETHROTOMY.**—*Combined External and Internal Urethrotomy.*—Mr. Reginald Harrison advocates the combined use of internal division of the stricture and an opening through the perineum to place the anterior and previously strictured portion of the urethra at rest from disturbance by micturition and the contact of urine. Mr. Harrison has operated in twelve instances with marked success, the series of cases including the worst and most unpromising examples of the disorder. After dividing the stricture from within by means of one of the ordinary forms of urethrotome, the author proceeds to perform the perineal operation, which he says should be described as a perineal puncture (not a perineal section in the ordinary sense) with a knife, completed with a probe, along which a drainage-tube is conducted into the bladder. The following is his description of the mode of operating:—"The patient being placed in the lithotomy-position, and a grooved staff introduced, I puncture the membranous urethra with a long straight finger-knife, one inch in front of the anus, the back of the knife being towards the rectum; the incision is slightly enlarged forwards, so as to permit the introduction of the index finger; if the staff be found exposed at the bottom of the wound, as it generally is, all well and good; if not, I reintroduce along my finger to the bottom of the wound a somewhat blunt though pointed knife (made for the purpose), with which I clear away the few fibres that remain between the tip of the finger and the groove; if a sharp knife be thus used, either the wound is made unnecessarily large, or the finger may very easily be cut. The plan of the incision is first to make it fit the finger, and subsequently the drainage-tube; if this be done accurately, there is practically no bleeding. When the groove of the staff is felt, Wheelhouse's small probe-pointed gorget is slid along it, the staff is withdrawn, and the drainage-tube passed along the concavity of the gorget into its position. The proceeding that I have thus described is merely for the purpose of drainage, and for placing the urethra at rest. It is, of course, preceded by the performance of internal urethrotomy, which at once admits the



passage of a full-sized sound." The writer points as follows to the considerations which have led him to advocate the combined internal and external operations:—"On carefully considering the whole subject, it seemed that, if it were possible to assimilate the performance of internal urethrotomy with some other operations on the urinary apparatus, where there was an absence of any special form of fever or septic intoxication following them, and where the wounds inflicted did not heal with a scar-tissue, which subsequently manifested an inordinate disposition to contract, we might mitigate, if not entirely remove, the more prominent objections connected with internal urethrotomy to which I have alluded. If, for instance, we take the operations of lithotomy and of perineal section, where the urethra is more or less involved in the wound, and where, at the same time, provision is made for the escape of urine from the bladder by the newly-formed passage, we shall find both proceedings free from the subsequent occurrence of rigors, and from the development of the special form of wound-fever which, in varying degrees, almost constantly follows internal urethrotomy. If the temperature charts be taken, say of 50 cases each of lithotomy, of perineal section, and of internal urethrotomy, we shall see whether such a statement is not warrantable, whatever the deduction therefrom may be. I cannot remember an unexplainable rigor following immediately upon a lithotomy; but, in my experience, after internal urethrotomy, it has been almost constant. In what lies the difference? Are the anatomical and physiological arrangements in the female sex sufficient to account for its entire immunity from anything resembling urinary fever or intoxication as observed in the male, in all cases involving operative interference with the female urethra?" (Mr. Reginald Harrison, *British Med. Journal*, July 18, p. 91.)

*Internal Urethrotomy.*—Internal urethrotomy is superior to any form of dilatation as a means of treating ordinary cases of stricture, uncomplicated by perineal fistulæ or other such changes as can only be met by the more serious procedure of perineal section. The method of Maisonneuve, of division of the stricture from behind forwards in the roof of the urethra, has decided advantages over that of Civiale and his followers. The stricture should be completely divided, and a catheter should not be retained in the urethra after the operation. (Mr. W. Thornley Stoker, *Dublin*, p. 311.)

*VARICOCELE.*—*Treatment by the Subcutaneous Wire-loop.*—Mr. Barwell has published the results in 100 cases of varicocele treated by passing subcutaneously round the veins a wire-loop which, being tightened every other day, first occludes and then slowly cuts through them. The operation in the majority of cases is attended by only the slightest discomfort, has not once in Mr.

Barwell's cases been followed by pyrexia or erysipelas, and may, if need be, be performed without an anæsthetic. The ultimate results were uniformly successful, candidates previously refused were passed for the services, pains and discomfort disappeared, wasted softened and shrunken testes regained in many cases more or less of their normal size and consistency. (Mr. Richard Barwell, p. 316.)

## AMPUTATIONS, FRACTURES, DISLOCATIONS, AND DISEASES OF THE BONES, JOINTS, ETC.

**ACUTE OSTITIS.**—*Use of the Trephine.*—Mr. Thomas Jones calls attention to the very successful results which follow the use of the trephine in cases of spontaneous osteitis, not only in respect to the immediate relief so afforded to the very severe symptoms of this disease, but also as a sure means of arresting the spread of the inflammatory process to the neighbouring joint. It is clear from Mr. Jones's paper that one must not always expect to find, on opening the bone, any very certain evidence of inflammatory actions, such as the formation of pus, for in three cases given the only appearances found were those of infiltration of the cancellous tissue with inflammatory elements, together with minute extravasations of blood—appearances which it is not always easy to pronounce to be of a pathological nature, in a structure of such varying aspect as spongy bone tissue. The early period of the disease at which the trephine was used, as it always should be used if the implication of neighbouring structures is to be prevented, may explain the comparatively vague changes found in the bone in cases presenting such typical symptoms as those published in Mr. Jones's paper. (Mr. Thomas Jones, p. 215.)

**BOWED LEGS.**—*Treatment by Forcible Fracture.*—Mr. Ormsby, of Dublin, advocates the forcible fracture of the bent bones, which can easily be done, either by firmly grasping the limb with the two hands and moving the one against the other, or by bending the limb across the operator's knee. Mr. Ormsby says he has performed the operation hundreds of times, and has never met with a single complication. He never produced a compound fracture, and never failed, where he effected fracture, to rectify or greatly lessen the distortion. Judging from the drawings which accompany his paper, the method of treatment is followed by all the success the writer claims for it. (Mr. Lambert H. Ormsby, p. 228.)

**CERVICAL CARIES.**—*Treatment.*—At the Medical Society, Mr. Walsham read a paper on the Treatment of Angular Curvature of the Spine in the Upper Dorsal and Lower Cervical Regions by a combination of jacket and collar of poroplastic felt. The



apparatus (prepared at his suggestion by Mr. Cocking) is made of one piece of felt, and consists of an ordinary poroplastic felt jacket, together with accurately fitting collar and helmet piece. The jacket and collar are continuous posteriorly, the collar portion being carried upwards over the occiput, and, after encircling the neck, is bent downwards over the shoulder and upper part of the front of the chest, where it overlaps the jacket portion, and is there secured in position by straps and buckles. The cases for which it is especially adapted are those where the caries is situated too high in the spine to be benefited by a common felt or plaster jacket, and too low to be treated by the various collars in use for cervical caries; in short, for cases in which the jury mast is now so frequently used. Mr. Walsham has not been satisfied with the results of the jury-mast apparatus. The plaster-of-Paris jacket has no basis of support in the small pelvis of young children, and thus the jacket did not remove pressure from the diseased vertebræ. By means of the poroplastic apparatus the pressure is removed from the bodies of the vertebræ, though the weight might be transmitted through the posterior parts of the spine—i.e., through the articular processes and their supports. The results have been very encouraging. Several of the children, who could not stand before the apparatus was applied, were able to walk a few weeks later. The gravest objection to which it appeared open is that it is likely to embarrass thoracic breathing; but this is an evil incidental to all forms of jacket. The further advantages of this jacket over the jury-mast apparatus were that, besides that it did not slip down in young children and males, the parts are held more steady, the rotatory and lateral movements of the neck in cervical caries are controlled, there are no straps to stretch or to be in different states of tension according to the varying positions of the head, and the patient can lie down in greater comfort. Mr. Walsham advocated long daily periods of recumbency in the treatment of this form of caries. In conclusion, he urged the advantages of felt as a material for jackets generally, as against plaster-of-Paris. Sweat did not soften the felt unless the temperature reached 150° F. The shape could be well made and maintained. He proved that felt was porous by filling a hollow ball made of felt with smoke. The smoke slowly escaped through the interstices of the felt. (Mr. W. J. Walsham, *Lancet*, April 4, p. 619.)

**COLLES'S FRACTURE.**—*Treatment.*—I think it best to seize the lower fragment of the radius, use the knee as a fulcrum, draw the lower from the neighbourhood of the upper fragment, and forcibly pronate, keeping the upper part of the radius fixed. Do not let the pull be upon the wrist-joint exclusively, as, apart from the extra pain it gives rise to, the control over the offending



fragment is lessened. The great point is to ignore the patients' cries, and to make an unrelenting effort to propel the lower fragment, not merely in a line with, but in front of, the upper. The endeavour will of course not succeed, but by attempting a little too much just enough will be done. If the hand is now unloosed and even shaken a bit, only in very exceptional instances will the deformity recur. Provided reduction has been complete, and the patient is under observation, it does not matter in the least what splint is used. A Colles's fracture thoroughly reduced is as easy of treatment as any other, and special splints are either indications of doubt on the part of the surgeon, or are used as extra precautions against the carelessness of patients. (Mr. Robert Jones, p. 217.)

**CORROSIVE SUBLIMATE AS A SURGICAL DRESSING.**—*A Cause of Toxic Enteritis.*—Dr. George Peabody, Physician and Pathologist of the New York Hospital, in a paper on toxic enteritis caused by corrosive sublimate as a surgical and obstetric application, adduces from the records of the New York Hospital accounts of eleven cases in which the use of the perchloride as an antiseptic dressing or application was followed by obstinate diarrhoea, which did not yield to the usual remedies, which sometimes ceased on the drug being discontinued, but which in seven instances was followed by frequent bloody discharges, griping, tenesmus, prostration, and death. He was led to search out the facts by reading an article by Dr. E. Fraenkel, whose attention had been drawn to the subject by reading a communication by Stadfelt of Copenhagen, in which is reported a fatal case of poisoning in a woman who was treated, after retained placenta had been removed with the hand, by the washing out of the uterus with a solution of corrosive sublimate of the strength of 1 in 1500. Four hundred cubic centimetres of this solution had been injected into the uterus, when sudden collapse occurred, from which she rallied. On the evening of the same day she had diarrhoea and tenesmus, and later, bloody stools, which continued until her death, ten days after. The autopsy showed numerous ulcers of an irregular or circular shape in the large intestine. The mucous membrane generally was congested and the ulcers frequent in the rectum. These appearances of the intestine corresponded closely with what was noticed by Dr. Peabody in several of the autopsies he made of surgical cases where the bichloride had been used, as for irrigating abscess cavities, irrigating wound after amputation of the breast, irrigating a suprahymatid cyst; wiping the peritoneum after laparotomy for fibro-myomata with sponges wet with bichloride solution, 1 to 2,000 parts. Fraenkel says he has made autopsies of fourteen cases treated by Schede with bichloride during the last two years and a half, in which toxic enteritis was produced

by it. Of these fourteen cases, two, he thinks, were killed by the poison directly. In the others the drug did not seem wholly responsible for the fatal issue. Salivation is exceptional in these cases. Inflammation is always present in the large intestine, but only exceptionally in the smaller. In the large intestine Fraenkel found very extensive superficial ulcerations, sometimes covered with loose masses of epithelium and sometimes by a torn diphtheritic membrane. The lesions of pyæmia in other organs are uniformly absent. Dr. Peabody refers to a publication by Schede of Hamburg on this subject and also to one by W. Thorn, assistant at the Female Clinic in Halle, which is an urgent plea for the total abolition of the corrosive from midwifery and gynæcology, alleging its great inferiority to carbolic acid, and the dangers attending its use. We think it incumbent upon us to give publicity to these publications, as we have lately recorded with much satisfaction the remarkable absence of mortality in the General Lying-in Hospital of York-road, Lambeth, where the patients are douched with solutions of the bichloride twice a day. These, of course, are only vaginal douches. We have been informed that there was, except possibly in one case, an entire absence of any indication of the constitutional action of the poison. It is clear, however, from surgical experience, that this solution will have to be used very cautiously, and not less so in obstetric practice. We should be disposed to say that its intra-uterine use is not warranted. There is a growing disposition, except in extreme cases, to trust to vaginal cleansings. (Editor of *Lancet*, April 4, p. 626.)

**ERASION, OR ARTHRECTOMY, OF THE KNEE.**—The author has performed this operation in sixteen cases of fungous arthritis of the knee. The operation consists in opening the joint freely by a semi-lunar incision, just as in the ordinary mode of excising the knee; the skin is reflected and the capsule removed on each side of the patella and patellar ligament, or, if preferred, the patella may be sawn across and the fragments turned upwards and downwards. If the former plan is employed, free incisions parallel to the long axis of the limb are made on each side of the patella, extending a little above its upper border as well as downwards nearly to the insertion of the ligamentum patellæ into the tubercle of the tibia; the object of this is to allow the patella to be freely displaced laterally, and turned round so as to expose its articular aspect during the process of erosion. The rest of the operation consists in carefully cutting away with forceps and scalpel or scissors every particle of pulpy granulation tissue, all the infiltrated capsule, and the semi-lunar cartilages, and scraping quite clean all the articular cartilage, picking out granulation tissue from any pits in the cartilage, and if necessary gouging away any small spots of diseased bone. The process must be



most thorough, and extreme flexion of the limb is required to completely expose and clean the posterior part of the joint; the crucial ligaments are scraped but carefully preserved, the lateral ligaments usually divided. The upper synovial sac must be thoroughly cleaned. The most difficult part of the operation is getting away the posterior part of the semi-lunar cartilages, and the synovial membrane at the back of the joint. (Mr. Geo. A. Wright, p. 226.)

**EXCISION OF BOTH BREASTS AT THE SAME TIME.**—It may, I think, be held to be sound surgery to remove both breasts whenever suspicious conditions exist in both in an early stage. By adopting such a rule, we should probably save a certain number from ever becoming the subjects of declared cancer. I am not sure that we might not suitably extend that rule, and hold that, whenever the local conditions are favourable for operation if the disease be on one side only, the fact that it is on both ought not to deter us. Probably the double operation is only by very little more dangerous than the single one; and under modern plans of dressing there are but very few cases in which the patient is not, to some extent, a gainer by the removal of a cancerous breast. Whether one or both glands are concerned, our practice should, I think, be to operate when in doubt. No means should be omitted to clear up the diagnosis; but if, after all such have carefully been used, doubt remains, then we allow our patients to run needless risks if we encourage waiting. Amongst these means, there is none more frequently valuable in correcting erroneous impressions than the exploring trocar. The cases which it clears up are not, however, those which puzzle us most. Nor in all cases does the difficulty vanish even when fluid has been obtained. For there are not a few cases in which cancer exists, either in conjunction with numerous small cysts, or in which it follows on such formations. It is in this class of cases especially, of which the above is one, that double operations may be called for. If it be asked whether, in cases of double disease, it is better to remove the two breasts by a single or by separate operations, I would venture, without hesitation, to recommend a single one, as probably involving both less risk and less inconvenience to the patient. (Mr. J. Hutchinson, p. 214.)

**FLAT FOOT.**—*Treatment by Astragaloid Osteotomy.*—Professor Stokes, in a paper on this subject, draws attention to the usually accepted theories as regards the etiology of flat-foot—viz., ligamentous relaxation and a paralytic condition of certain muscles connected with the ankle and foot. He adduces various arguments to disprove these views. Attention is called to Prof. Ogston's researches in this direction, and an account given of the operation he has devised for the cure of the



deformity in question; and objections to it are taken, based on the operation being complicated and difficult, and followed necessarily by an obliteration of the medio-tarsal joint. Mr. Stokes believes that the defect causing flat foot is due, primarily, to alteration in the tarsal bones, notably the astragalus, which change in it may be either congenital or the result of disease—probably rickets,—and that this stretched rather than relaxed condition of the ligaments is a secondary rather than a primary change. In illustration of this view, he exhibited a specimen of the deformity taken from the museum of Trinity College, and for which he was indebted to Prof. Bennett. Having regard to the fact that in the irreducible cases of flat-foot osseous deformation is the chief factor, Prof. Stokes believes that the rational treatment for such cases should be to deal exclusively with the deformed astragalus, and to do so without necessarily obliterating Chopart's joint. This he did in the case of a youth aged fourteen, and with complete success. The parts to be operated on were rendered perfectly aseptic, and an incision an inch and a half in length along the inner edge of the foot made, the centre of which incision was the prominence caused by the head of the astragalus. At the centre of the incision another was made at right angles to it, a little behind the situation of Chopart's joint, and the two triangular flaps of skin dissected back for about half an inch. A wedge-shaped piece of bone from the enlarged head and neck of the astragalus was then removed with an osteotome, and it was then found that by adducting and supinating the foot the arch was perfectly restored. The wound during its union was aseptic throughout, and the patient afebrile. The method Prof. Stokes adopted for keeping the foot in a position of adduction was by the application of a Dupuytren's splint applied as in a case of Pott's fracture of the fibula. The result of the operation was most satisfactory, and casts of the foot, taken before and after the operation, were exhibited. (Prof. Stokes, *Lancet*, May 9, p. 848.)

**FRACTURE OF THE SKULL.**—*Is Trephining necessary in Compound Depressed Fracture of the Skull?*—Mr. C. E. Humphreys relates a case of compound depressed fracture of the skull, in which the only treatment was constant cold to the head, aperients, and small and frequent doses of calomel. Recovery was perfect, but of course the depression remained. This was circular, two inches across and immediately behind the right parietal eminence. He adds the following practical remarks:—"Most surgeons are in favour of extending the operation of trephining to cases of compound depressed fractures, whether symptoms of compression or of cerebral irritation be present at the moment or not, be-

believing that the constant irritation of the depressed spiculæ of bone, together with the admission of air, greatly tends to excite meningitis, &c. This case and those already published do not support this practice. Trephining is a grave operation; the results are not encouraging, and the indications for performing the operation often extremely obscure. The difficulty of drawing a line of demarcation between concussion and compression is frequently very great; and this is not surprising when we consider that both are, according to the latest theories, only symptoms of a common pathological condition of the brain—viz., anæmia; the anæmia of concussion being the result of a temporary vaso-motor disturbance, and therefore the symptoms tend towards gradual decline, and that of compression to the mechanical pressure of extravasated blood, pus, or of a large depression of bone. Here the cause is a permanent one, so that the symptoms, at first generally insignificant, gradually pass from bad to worse, until the patient dies of asphyxia, unless relieved. Most cases of compression in depressed fractures are probably the result of extravasation of blood consequent on injury to an artery or venous sinus, or to extensive laceration of the brain with subsequent oozing from the capillary vessels, since it is difficult to conceive how the depression of a small portion of bone could sufficiently squeeze the brain as to render it anæmic. It appears to me, therefore, from a study of this and of similar cases, that operative interference in compound depressed fractures is not justified unless there is compression, and this condition we cannot confidently diagnose from the present symptoms alone, but from a careful consideration of the state of the patient immediately after the injury, and the course which the symptoms subsequently take.” (Mr. C. E. Humphreys, Llanfair, Welshpool, *Lancet*, Aug. 8, p. 243.)

[We know a man who has the entire left half of the forehead driven in and concave from an accident when a boy. His appearance is most startling to anyone seeing him for the first time, but, nevertheless, he is a man of great intelligence, and has raised himself to a position of opulence, from a comparatively humble origin. ED.]

**FRACTURES OF THE RIBS.**—In another group of injuries—fractures of the ribs—my investigation of a great series of specimens has led me to endorse, in opposition to the commonly accepted theory, the opinion of Malgaigne, which seems never to have taken hold of the profession. Our standard text-books to this day, in this country and in America, hold fast to the theory of Petit, which assumes that, when the chest-wall is broken by indirect violence, when the ribs break as the result of compression of the chest, as a whole their fragments are thrust outwards.



Not a clinical observation, or a specimen that I know of, confirms this view, and yet I say it is taught everywhere. Let any one who seeks to verify its value examine some hundreds of rib-fractures, and his views will soon change. (Dr. E. H. Bennett, Dublin, British Med. Journal, Aug. 1, p. 200.)

**HIP DISEASE.—*Its Treatment.***—Dr. Alexander, of Liverpool, concludes an exhaustive paper upon the comparative advantages of excision in hip-joint disease with the following general propositions:—1. That hip disease should in the earlier stages be treated by that absolute and perfect rest of the joint that we now appreciate so well, and know so much better—thanks to Mr. H. O. Thomas—how to apply, without at the same time producing general debility of the system through the restraint and confinement necessary in former times to secure sufficient rest to the joint. 2. That this treatment, thoroughly and persistently carried out for a long period, will cure a very large percentage of cases of joint disease. 3. That unfortunately this treatment *cannot* or *is not* properly or persistently carried out amongst the poor, with whom a persistent attempt to carry it out after a certain stage of the disease has been reached only leads in many cases to a useless limb after many years, and probably in a majority to death, either during the process of cure or soon after, from the exhausting effects of the local disease, and not, as some erroneously think, from an inherited constitutional debility. 4. That many of these patients could be saved by excising the joint when a decided second stage of hip disease has been reached, and that excision is most safely and advantageously performed by severing the femur above the trochanters, clearing out the acetabulum, and maintaining the opposing bones so far apart that their surfaces can resume a healthy condition and the aperture between become filled up with fibrous tissue. By this means an excellent false joint is formed, or, if the adhesions become too firm, a good stiff joint. 5. That the advent of the stage of the disease suitable for excision is indicated by the repeated formations of abscesses and sinuses round the joint. Then excision, as described, seems to me to offer better results, both locally and generally, than rest and waiting to see what will turn up. 6. That when the supra-trochanteric mode of excision cannot be performed with any chance of success, on account of the extensive nature of the hip disease, the alternative treatment comprises either continued expectancy or amputation, according to the age and condition of the patient. 7. That it is, however, a great mistake to imagine that all softened bone or infiltrated tissue should be cleared away by the operator. All he has got to do is to clear a space where the operations of nature, in dealing with diseased or disabled tissues, can be carried out as easily and expeditiously as possible. The operator



should remove all manifestly dead tissue, but bone and tissue that the surgeon would be inclined to sacrifice as doubtful should be left alone, as these will, under the same skilful hands of nature, be restored to health, or extruded harmlessly if only a passage for their extrusion be maintained. (Dr. Wm. Alexander, Liverpool Med.-Chir. Journal, July, p. 301.)

*Hip Disease.—Results of Excision of the Hip.*—Within the past ten years I have excised in thirty-six cases of hip disease. Most of these I have followed up successfully, so that I can tell not only whether they died from operation or not, whether the wounds healed up or not, but also whether they finally reached a state of good health and could be considered cured or not. Twenty-three were successful, resulting in a cure. Through maternal neglect one of these anchylosed in a false position. Only one died from the direct effects of the operation, viz., from shock. Three died, from one to three months after operation, from the exhaustion of the suppuration, which the excision failed to materially lessen. Three died from six months to three years afterwards, viz., two from phthisis and one, a year after, from albuminuria; of the others three recovered after amputation. One of these died a year after from phthisis. Two died shortly after amputation from exhaustion. In other words, twenty-five of these cases are probably alive and in good health and eleven are dead. Only one died from the operation. That case died from shock, and by the old method of operation. Age has much to do with the mortality. Seven of my patients were over twenty years of age, and of these four died. This reduced the mortality of patients under twenty years of age to seven in twenty-nine cases, *i.e.*, out of twenty-nine cases of hip disease excised twenty-two are alive many years after. The excessive mortality above twenty years of age arises from the deterioration of the whole system through years of suppuration, irritation, and depression. This is a point to be remembered by those who practice the expectant treatment by rest to the end, I should say the bitter end in many cases, for, although the joint may be cured, the patient is killed in the process, or so weakened as to die soon after from the direct sequelæ of the hip disease. Above twenty years of age hip disease should be left to the expectant treatment, except in those cases where it has recently commenced. (Dr. Wm. Alexander, Liverpool Med.-Chir. Journal, July, p. 297.)

[Dr. Alexander's account of his method of operating will be at page 223 of this volume.]

*Hip Disease.—Management of Abscesses in.*—Contrary, we believe, to the experience and teaching of most English surgeons, Dr. Judson, of the New York Hospital, strongly favours the

expectant method of treatment of the suppurations connected with ordinary strumous arthritis of the hip-joint. Dr. Judson gives notes of twelve cases under his care, all presenting the ordinary clinical features of hip-joint disease, in which the suppurations occurring were left to attain, in most cases, an enormous size, and to open spontaneously without any attempt at an antiseptic protection being made. All the cases reported recovered after varying periods, usually not longer than six months, of discharging sinuses, with useful limbs, the joint being in some cases fixed, in others movable. The only treatment advocated and followed in all the cases was the application of an apparatus (not specially described) which, while perfectly fixing the limb in a good position, permitted the patients to follow their usual avocations. "The reported cases," the author says, "do not include those of all the patients whose histories have been reviewed in the preparation of the paper. A number are still under treatment, and a few have died from causes more or less directly connected with the joint disease. In the whole number, however, no case has shown clinical features at variance with the view that abscesses are phenomena of secondary import in the progress and management of a case of hip disease, and that their treatment may in many cases be purely, or almost purely, expectant." (Dr. A. B. Judson, *New York Med. Journal*, Jan. 31, p. 116.)

*Hip Disease.—Local Applications in.*—With reference to local applications, my experience is against the employment of irritants, setons, issues, and the like. I have found leeching useful in relieving acute sensitiveness and pain in acute attacks of inflammation, such as we now and then meet with in the course of chronic diseases. In a similar way, poultices and soothing fomentations are occasionally needed. Their habitual use is not desirable. The whole limb should be kept warm, and scrupulously clean by washing, and it should be systematically rubbed to maintain the suppleness of the muscles and joints below the hip, as this obviates some of the minor ills of long confinement. (Mr. John Croft, p. 222.)

**INJURIES TO SPINE.**—*Use of Plaster of Paris Jacket.*—Dr. Byrne, of Brisbane, Queensland, reports three cases of serious injury to the spine treated in this manner. Case No. 1 was that of a man æt. 29, who, on his admission into the Prince Alfred Hospital six months after he had sustained a severe blow upon the back by a trolley falling upon him, was found to have complete paraplegia with distended bladder. He was suspended in the ordinary manner and a jacket applied, after which he was able to walk about, but notwithstanding declined the further application of the jacket. Some tetanoid condition seems to have



ultimately supervened, for which, by misadventure, a grain and a half of morphia was injected in the space of an hour and a half, with a fatal result. The post-mortem revealed a partial dislocation of the third lumbar vertebra. Case No. 2 was one of fracture of the spine, causing complete paraplegia and retention of urine. Mr. Byrne swung the patient, and applied a jacket ten days afterwards. The patient was discharged well and able to walk in six months. Case No. 3 was one of fracture in the dorso-lumbar region. The application of the jacket during suspension resulted in the patient being able to walk with crutches in five months from the receipt of the injury. (Dr. W. S. Byrne, *Australasian Med. Gazette*, March, p. 143.)

**SENILE GANGRENE.**—*Amputation.*—Until recently, influenced by the practice of the older surgeons, amputation for senile gangrene was considered an useless and unjustifiable procedure, the disease being regarded as part of a general malady, and it being thought that, should the patient survive an amputation, the gangrene would surely attack the flaps, and spread upwards, to the ultimate destruction of the sufferer. Modern experience has proved these fears to be groundless, and shows that, when amputation is performed with strict antiseptic precautions, the patient has a good chance of recovery. In cases of senile gangrene, the circulation of the part is comparatively feeble, so that the low vitality of the flaps renders them peculiarly suitable soil for the development of putrefaction. Nevertheless, they have sufficient vitality to heal, provided all external infective agencies be excluded. Indeed, in studying cases of senile gangrene, it is impossible to overlook the fact that there are generally two causes at work, namely, low vitality of the part, and exposure to the germs of decomposition. How often, for example, may it be observed that, notwithstanding that there has long been evidence of feeble circulation in the limb, actual gangrene only commences after some slight cut or excoriation forms a nucleus for starting the decomposition! When this process has once commenced, the nutrition of the limb is generally too feeble to allow a barrier to be formed to stop its progress. Believing most thoroughly that the principle of amputation in these cases is sound, I would strongly urge its performance when the disease has spread to the foot. The point of selection for the operation is important. Mr. Hutchinson, in his valuable paper read before the Royal Med. and Chirurg. Society in 1883, advised that the lower third of the thigh should be selected, on the ground that the nutrition of the flaps would be more active than if the amputation were performed lower down. I cannot but think that an amputation so high up is more severe than is necessary, and I would advocate that, whilst the gangrene is still confined to the foot, the less formidable operation through the



thin part (lower third) of the leg is sufficient to arrest the disease. In the only two cases in which I have had an opportunity of watching the effect of the operation in this situation, in both instances, by strictly observing antiseptic precautions, the patient's life was saved from imminent risk, and the stumps eventually soundly healed. (Mr. Harrison Cripps, p. 232.)

**SPINA BIFIDA.**—At the meeting of the Clinical Society, on May 22nd, 1885, portions of the "*Report of the Committee appointed to inquire into the Anatomy of Spina Bifida, and its Treatment by the Injection of Iodo-glycerine Solution,*" were read by Mr. R. W. Parker. The following is an abstract of the report:—Before attempting to discuss the results of treatment of spina bifida by Morton's or other methods, it was thought desirable to determine more clearly than had hitherto been done the pathological conditions included under that term. With this object, the committee undertook an examination of all the specimens of the deformity contained in the London museums, as well as those in Cambridge and Glasgow, and sundry others placed at their disposal by different contributors to this report. The subject was therefore divided into two parts: first, the pathological anatomy of spina bifida; and secondly, the treatment of the deformity. 1. *Pathological Anatomy.*—The term spina bifida was used to define certain congenital malformations of the vertebral canal, with protrusion of some of its contents in the form of a fluid tumour. With very rare exceptions, the malformation affected the neural arches of the vertebræ, and the tumour projected posteriorly; in rare cases, however, the bodies of the vertebræ were involved, and the tumour in such cases protruded anteriorly into the thorax, abdomen, or pelvis, between the lateral halves of the bodies affected. The museum specimens were discussed under the following, or some of the following, headings:—1, position of the tumour; 2, size and configuration of the sac; 3, coverings of the sac; 4, disposition of meninges within the tumour; 5, size and configuration of the deficiency in the neural arches; 6, disposition of the spinal cord and nerves; 7, unusual variations; 8, the process of cure. The result tended to show that the specimens fell under three chief divisions: 1, protrusion of membranes only (spinal meningocele); 2, protrusion of membranes, together with the spinal cord, and its appertaining nerves (meningomyelocele); and, 3, protrusion of the membranes, together with the spinal cord, the central canal of which was dilated so as to form the sac-cavity, the innermost lining being constituted by the expanded and atrophied substance of the cord (syringo-myelocele). As to the comparative frequency of these three varieties, the committee stated that the second, meningo-myelocele, was by far the most frequent, while simple meningocele came next, and syringo

myelocoele last. As a typical example of the common variety, a specimen now in the College of Surgeons was quoted. This was a case of lumbo-sacral spina bifida, of the size of a Tangerine orange, sessile, but constricted slightly at the point of attachment. The tumour presented normal skin for a short distance round its base, but the central portion consisted of a thin translucent membrane; along its vertical axis the tumour was slightly furrowed, this furrow corresponding to the attachment of the cord to the inner surface of the sac-wall. The spinal cord ran almost horizontally across the upper part of the sac, and then became incorporated with the sac-wall, from which also the lowest nerves arose; they then passed across the sac to gain the intervertebral foramina, from which they issued normally. The anterior and posterior roots of the nerves were separated from each other by an exaggerated ligamentum denticulatum. Concerning simple meningocele, and cases where there was dilatation of the central canal of the cord, little was said, except that they might very easily be mistaken one for the other; for both sacs were free from nerves, and a careful dissection was often necessary in order to distinguish them. In some cases of meningocele, with a large communication with the vertebral canal, the cord could be seen lying at the bottom of the sac in the vertebral canal, and then there could be no difficulty about the diagnosis. Besides these three chief varieties, mention was made of several variations; among these, the division of the sac into smaller loculi, and the occurrence of bony outgrowths across the vertebral canal, button-holing the spinal cord, were the most remarkable. Careful microscopic examination of the sac-wall in a typical case of meningo-myelocoele had disclosed the continuation of the central nervous system within its median vertical portion, the integrity of the central canal of the cord within this part, and the absence of true skin over it. It further displayed the absence of any meningeal cavities behind the incorporated portion of the spinal cord. It was clear, therefore, in the first place, that the nerve-roots, which traversed the sac, arose from this intramural portion of the central nervous system, and that all expressions of descriptive pathological anatomy which implied a distribution of the nerves to the sac-wall were a reversal of facts. Even more important than this, the histology of the sac-wall in a typical case, by demonstrating the integrity of the central canal of the included portion of the cord, showed beyond dispute that the neural furrow did not remain unclosed in spina bifida, nor, after having been closed, was it subsequently distended by dropsy and ruptured. The absence of true skin from the central portion of the sac-wall was next adverted to. This fact implied that the mesoblastic basis of the true skin, and the structures lying in



subjacent connection with it, had not been developed. The presence of the cord in the sac-wall offered no difficulty of explanation when its epiblastic origin was remembered. The theory, therefore, which best explained the pathological anatomy of spina bifida, was that which assumed a primary defect of development of the mesoblast from which the structures closing in the vertebral furrow were developed. 2. *Clinical Course and Treatment of Spina Bifida*.—In order to form a correct estimate of the value of treatment by the injection of Dr. Morton's iodoglycerine solution, the committee had endeavoured to ascertain as far as possible the natural history of the deformity when untreated, and had prepared tables of cases treated in various manners for purposes of comparison. As regarded the natural history of the deformity, the Registrar-General's report for 1882 showed 649 deaths from spina bifida in England and Wales, of which 612 occurred under 1 year of age. The committee held that, though a certain number of these deaths were due to local causes—rupture of the sac, draining away of the cerebro-spinal fluid, and subsequent septic meningitis—yet in a large proportion of the cases death ensued from the marasmus and general defective nutrition frequently associated with the deformity, and which could not be remedied by any local or other treatment. The tables next dealt with treatment by injection with simple solutions of iodine, and showed a considerable amount of success. Then ligature of the sac was considered, and here again good results seemed to have been obtained. Excision likewise had a considerable proportion of success. The plan of repeated tapping and pressure gave the least successful results of any. The injection of Morton's fluid, according to the committee's tables, showed a percentage success of between 50 and 60. The high mortality was thought to be, in unsuitable cases, largely due to the treatment having been adopted on account of its simplicity and supposed safety. In spite of the favourable results of ligature and excision of the tumour as shown in the tables, the committee felt themselves compelled to report against these methods of treatment. There was reason to think that the published cases might be misleading, owing to some cases of failures not being recorded, while all the successes, being regarded as surgical triumphs, were almost certain to have been recorded. Moreover, it seemed probable that a careful selection of cases had been made. The committee, therefore, advocated the plan of treatment by injection—and preferably by the injection of Morton's fluid. A series of conclusions brought the report to a close. The report was signed by Mr. Howard Marsh, Mr. A. Pearce Gould, Mr. H. H. Clutton, and Mr. R. W. Parker. (*British Medical Journal*, May 30, p. 1098.)

*Spina Bifida Treated by Plastic Operation.*—At the ordinary meeting of the Clinical Society on April 27th, Mr. Mayo Robson, Surgeon to the Leeds Infirmary, read a paper on a series of cases of spina bifida treated by plastic operation. He described four cases on which he had operated:—*Case 1.*—A. S——, aged six days, was the subject of a spina bifida the size of an orange; operated on Oct. 26th, 1882. The child lived and thrived for a year, when it died after a day's illness from teething convulsions. The site of the tumour presented only a linear scar. The interposed periosteum had not formed new bone. (The excised sac was shown to the Society.) *Case 2.*—Mary A——, aged eighteen days, a puny, ill-developed child, with a large spina bifida in the lumbar region; the sac was thin and translucent quite to the margin of the tumour, and the skin around inflamed. It was all excised except two narrow portions, which were sufficient to form meningeal flaps, these being covered in by skin flaps obtained by separation and sliding from the lumbar regions. The wound healed by first intention, but the child died from a continuation of the marasmus present before operation. At the autopsy the whole lumbar spine and part of the sacrum were bifid. There was no meningitis. (Specimen was shown to the Society.) *Case 3.*—L. J——, aged sixteen, the subject of spina bifida in the lumbar region, the size of a foetal head, was admitted to the Infirmary to have tenotomy performed for talipes. The sac of the spina bifida began to inflame the day after admission, before any operation had been done, and produced high fever and severe head symptoms, threatening life. It was aspirated eight times between November 13th and December 9th, the last three aspirations yielding pus. She was rapidly losing ground and apparently sinking, so on December 11th Mr. Robson excised the sac after reflecting the skin by crucial incision; the cavity was drained for a few days. The head symptoms were at once relieved, and she recovered rapidly, being discharged cured twenty-four days after operation, with the wound quite healed, and only a scar where the tumour had been. (Patient shown to the Society.) *Case 4.*—D. C——, aged seven, had a spina bifida in the lumbar region, seven inches and a half in circumference; sac thin and inflamed at fundus; skin dissected from sac, and redundant sac and integument removed; suture of meninges by catgut, and of skin by wire. The wound healed by first intention, and the patient was discharged cured thirteen days after operation. The child was shown to the Society six weeks after with a linear scar where the tumour had been. All the operations were performed strictly antiseptically, the eucalyptus atmosphere being used instead of the spray. The points to which he would draw attention are—1. The principle of closing the meninges by bringing together two serous surfaces,



as in peritoneal surgery, and superimposing separate skin flaps, the meningeal and skin lines of the suture not being apposite. 2. The great importance of observing strict antiseptic precautions, as a septic condition would probably end in the same way as these cases usually do when they spontaneously ulcerate—viz., by meningitis and convulsions. 3. The success attending the plastic operation in cases which are absolutely not amenable to any other form of treatment—*e.g.*, where the coverings are thin, or the opening into the spinal canal large. 4. The possibility of transplanting periosteum, and its capability of surviving, as in the case read first. One may hope that the use of human periosteum—“*e.g.*, from a recently amputated limb”—will give better results. 5. The successful issue of Case 3, where, although the sac was acutely inflamed, its complete removal with efficient drainage effected a cure. This case presents several points of pathological importance—*e.g.*, (*a*) The rise of temperature without septicity apparently due to tension of, or pressure on, the great nerve centres. (*b*) The great relief given by aspiration. (*c*) Suppuration in the sac, possibly due to simple tension, probably not due to septicity, as the fluid was quite sweet on every occasion. (*d*) The entire absence of brain symptoms after operation, although the pressure on the great nerve centres must have been considerably interfered with during the time of healing of the wound. Mr. Robson suggested the following as a practical classification of cases of spina bifida for purposes of treatment—(1) Where no operation can or should be done. (2) Where no operation need be done. (3) Where an operation should be done. Class 1 (*a*) Where the deformity is very extensive, as in fissure of the whole or a considerable portion of the vertebral canal. (*b*) Where there is complete paraplegia. (*c*) Where the sac is large, the fissure extensive, and the coverings excessively thin up to the edge of the tumour, and no skin can be obtained to cover the meninges. But that such extreme examples even may stand a chance of cure is proved by Case 2. Class 2. Where nothing need be done. Where the sac is small and the coverings are so dense and firm as to form a good pad over the opening in the spinal column. Class 3. Where some operation should be done. (*a*) Where the sac only communicates with the spinal canal by means of a small opening; here it is a simple matter to dissect off the skin, expose the neck of the sac, ligature it by means of one circular ligature, and cut off the redundant meninges, bringing the skin over so as to have the line of skin sutures quite at the side away from the pedicle. Such an operation was performed by Mr. Edwd. Atkinson, one of Mr. Robson's colleagues at the Leeds Infirmary. (*b*) Where the sac has a good skin cover and communicates with the spinal canal by a large opening, it is quite easy to perform

the operation described in Case 1, carefully closing the meninges, and, if possible, placing the line of skin sutures away from the meningeal line of union. Such cases have been operated on successfully, not only by Mr. Robson, but by Prof. Jessop, U.S.A. Human periosteum might be placed between the meninges and skin, but Mr. Robson is not at all sure that a thin plate of bone, if formed, would be very serviceable. If the expanded neural arches be large, he thought it might be feasible to bend them towards the central line, and, by uniting them with thin silver wire, obtain a truly physiological closure of the spinal canal. (c) Where the coverings are excessively thin up to the margin of the tumour, as in Case 2, the operation is more difficult and uncertain, as the skin can only be obtained by a process of sliding from contiguous parts, and the tension necessarily present is not conducive to healing. (d) Where the spinal cord or the nerves are blended with the sac, he advises excision of portions of the redundant meninges at one or more places between the nerves, replacing the nervous structures in the spinal canal, and bringing over the skin cover; free drainage should be kept up between the membranes and integuments, or, if this could not be done, the membranes might be punctured, the collapsed sac, with the nerves intact, being placed in the canal, and the skin cover made as before. It is important to remember that a silver or a leather shield should be worn over the site of the operation, in order to protect the parts from injury, and to prevent the cicatrix from stretching or giving way. (Mr. Mayo Robson, *Lancet*, April 4, p. 616.)

**SPONGES AND INSTRUMENTS USED FOR OPERATIONS.**—A very fertile source of danger has been found to lurk in the use of sponges, concerning the purity of which it has been possible to entertain a doubt; and I mention this only to justify me in reiterating my belief that a fatal issue, when it arose, more frequently did so from septic than from inflammatory influences; or was, at any rate, more likely to have been initiated by septic than by inflammatory causes. For many years I have made it, when it has been possible to do so, an inflexible rule never to use a sponge twice over for any surgical operation; and the rule which I apply to my sponges I also apply, as far as I can possibly do so, to all my instruments, feeling with regard to them that the least failure in the most scrupulous cleanliness may suffice to outweigh all the care I may otherwise exercise in the performance of any operation. Such instruments as I cannot have new for every operation, I have freshly cleansed by my cutler, and as perfectly carbolised as possible; and such as I can renew for each operation I do, and especially those most unsafe ones, my needles. Picture to yourselves the mortification of seeing an ovarian operation, perfectly performed, uncomplicated by any



untoward occurrence, and in every particular promising success, but brought suddenly to grief by suppuration commencing in your stitch-holes, and spreading from them to the interior of the wound. This has happened to myself, and I feel confident that I have seen it happen in the practice of others; and I now, therefore, make it an invariable rule, in any case in which I desire union "by first intention," never to use a needle which has been used before. Its cleansing, with the very best intention in the world, may nevertheless have been imperfect. (Mr. C. G. Wheelhouse, British Med. Journal, April 18, p. 767.)

**TORTICOLLIS.**—*Treatment by Tenotomy.*—In most cases of congenital torticollis, operative interference will be required; for the deformity, being due to actual shortening of the affected muscle, cannot, as in many cases of the spasmodic affection, be overcome by manipulation or gradual extension, instrumental or otherwise. The usual plan is to divide the muscle subcutaneously close to its attachment to the sternum and clavicle, and the safest method is to make a small puncture, just above the clavicle, in the space between these attachments; through the opening a director should then be introduced, and passed close behind the sternal attachment, until its end can be felt projecting beneath the skin on the inner margin of the muscle; a blunt tenotomy-knife should then be run along the groove of the director, and the tendon divided from behind forward; the clavicular origin of the muscle, which, in most cases, also requires division, should then be treated in the same way, the director being passed behind it, from within outwards, through the same opening. By this method there is, I think, less risk of wounding the large vessels which lie in close relation with the muscle at the point of division, namely, the carotid artery, and the internal, external, and anterior jugular veins. It is advisable to perform the operation under the carbolic spray, so as to guard against the entrance of septic material into the subcutaneous gap left after the muscle gives way, which it usually does with a distinct snap as the assistant makes extension upon the head at the moment of division. The operation is not altogether free from danger, for it may be accompanied by abundant hemorrhage, and Mr. Erichsen refers to three cases where it was followed by fatal results. After the operation, the puncture should be closed with a pad of lint and collodion, the head being placed in an easy position upon a pillow. On the second or third day, the wound will generally have healed; and extension, combined with manipulation, should then be commenced, so as to completely overcome the deformity, which the division of the muscle will, in many cases, have only partially relieved. This may be effected by a modification of the plan recommended by Dr. Little. A felt cap, or a plaster-of-Paris

bandage, well padded, is applied to the head, and another bandage to the waist: one end of a piece of elastic tubing is then attached to the cap, or head-bandage, just behind the ear of the unaffected side, and the other end to the waist-bandage beneath the opposite nipple. The elastic extension, which thus acts in a line parallel to the unaffected sterno-mastoid, is then tightened until the head is brought into the proper position, and it should, at first, be worn by the patient day and night. In some cases it will also be found necessary to employ a second piece of elastic, attached above to the head-bandage, and below to the back of the waist-bandage. Combined with the extension, manipulation should be practised two or three times a day for ten minutes on each occasion; the patient's shoulders being fixed by an assistant, the chin should be twisted round towards the affected side, and the head bent over as far as possible to the sound side, or the patient, if sufficiently old, may stand before a looking-glass and practise these movements himself. This treatment should be continued until the deformity is quite corrected, and the head can be held perfectly straight; but, in many cases, it will be advisable that the elastic extension should still be worn daily for a short time; for, unless this be done, the deformity frequently tends to relapse. (Mr. F. A. Southam, p. 209.)

**TREPHINING FOR INTRA-CRANIAL TUMOUR.**—The event which will certainly make the present year memorable amongst surgeons, and will mark the first practical application of the teachings of cerebral localization to the treatment of intracranial disease by operative procedure, took place at the meeting of the Royal Medical and Chirurgical Society on May 12th, when Dr. Hughes Bennett, Dr. Ferrier, and Dr. Macewen, each brought forward cases in which lesions of the encephalon had been located and then exposed by trephining the skull. *Dr. Bennett's case* appeared in detail in the *Lancet* for 1884, vol. II., p. 1090. The patient was a young man aged twenty-five, who came under Dr. Bennett's care complaining of paralysis of the left arm of six months' duration, preceded and accompanied by spasmodic twitchings in the left face and tongue, convulsive seizures in the left arm and leg, with, at times, losses of consciousness, and all the usual manifestations of Jacksonian epilepsy. The condition was attributed to a blow on the left side of the head, inflicted some three years or more before the patient came under notice. From the preceding and other signs observed it was concluded that there was a tumour in the brain of limited size (it had destroyed the centres of the hand, and only caused irritation without paralysis of the centres of the leg, face, and eyelids) occupying the neighbourhood of the upper third of the fissure of Rolando. At Dr. Bennett's request, Mr. Godlee trephined the skull, and removed a triangular piece of



bone corresponding to the above-named region. No tumour or other abnormal appearance was found until the grey matter of the cortex had been incised, when, at a quarter of an inch below the surface, morbid growth was found and easily enucleated. The bleeding was arrested by cautery, and the wound closed. For twenty days afterwards the condition of the patient was in every way satisfactory, the vomiting, the pain in the head, and the convulsive movements in the limbs, having all ceased. On the twenty-first day symptoms of suppurative meningitis set in, and the patient rapidly succumbed. *Dr. Ferrier's case* was that of a man who had suffered for two years from cerebral symptoms, and was admitted into King's College Hospital with coma and left-sided paralysis. Sir Joseph Lister trephined the skull at the right frontal eminence, passed his finger into the lateral ventricle, distended with fluid, but could not reach any tumour. The patient died in eight days, and at the post-mortem a new growth was found springing from the sphenoidal fissure, and of such relations as scarcely to admit of removal. *Dr. Macewen's cases*, two in number (passing reference is made to other cases bearing upon the question of trephining for localized intra-cranial lesions of other kinds), are published *in extenso* in the *Lancet* for May 16th and 23rd. We reproduce here only the headings of the cases, which were as follows:—*Case 1.*—Patient admitted with impairment of power in the left arm, accompanied by muscular twitchings and pricking sensations in some parts; lesion diagnosed to be in upper half of ascending frontal convolution: trephining: membrane-like patch over surface of brain, involving arachnoid and pia-mater, along with external surface of the grey matter, blood infiltrated into substance of ascending frontal convolution: removal: reimplantation of bone: complete recovery. *Case 2.*—Left-sided motor paralysis of arm and leg, preceded by muscular twitchings, without loss of sensation, due to syphilis: cortical lesion in right motor area, superior half of ascending frontal convolution with probable involvement of paracentral lobule: trephining: internal table of osseous disc removed, shewing osteophytic deposits: dura-mater thickened: plastic membrane-like effusion over ascending posterior and anterior convolutions, and fissure of Rolando: incision into brain: escape of grumous fluid with pultaceous particles: exploration of interior of skull, discovery of osteophytic projections on occipital bone: second trephining to remove these: reimplantation of osseous fragments: complete recovery from operation, and power of left arm and leg usefully restored.—It will be observed that Dr. Macewen speaks of reimplantation of the disc of bone removed by the trephine which consists in its division into several fragments, and the adjustment of these fragments in the opening in the

cranium in such a manner as to permit of drainage of the wound. This, to us, new departure in osteo-plastic surgery, seems to have met with great success in Dr. Macewen's hands, in nine cases out of eleven in which trephining had been performed, the reimplantation succeeding perfectly. (Ed., from the Report of Meeting of Royal Med. and Chir. Soc., *Lancet*, May 16, 1885.)

**TUBERCULOSIS OF JOINTS.**—The most recent public utterances on the part of continental surgeons were made at the International Congress in Copenhagen, where Ollier, Trélat, and Volkmann repeated in an emphatic manner their views as to the frequency of the occurrence of tuberculosis of joints. Indeed, I am inclined to imagine that these authorities may be too broad in their statements. Volkmann stated that, in 250 instances of excision of the hip-joint, he had found all but five or six to be tubercular. He had found Koch's bacilli in all. P. Bruns, of Tübingen, is convinced of the tubercular nature of white swellings and fungous gelatinous tissue. König, of Berlin, formerly of Göttingen, in a recent pamphlet on disease of bones and joints, writes more positively than before of the frequency of tubercular disease. It is not denied that many cases of scrofulous disease of joints recover without any extension of this disease to other parts of the body, as in the history of scrofulous disease elsewhere in the frame. It is not denied that primary tubercular disease of joints is recovered from without operation and without extension of the neoplasm, now called by some infective granuloma. I, however, reassert, from my own knowledge, that primary tubercular disease of joints does occur, and I venture to reassert the truisms, 1, that tubercle is auto-inoculable or infective; and, 2, that scrofulous inflammations predispose to and become the seat of tuberculosis, as these have an important bearing on the early diagnosis and early treatment of this disease of which I am speaking. (Mr. J. Croft, *British Med. Journal*, June 6, p. 1143.)

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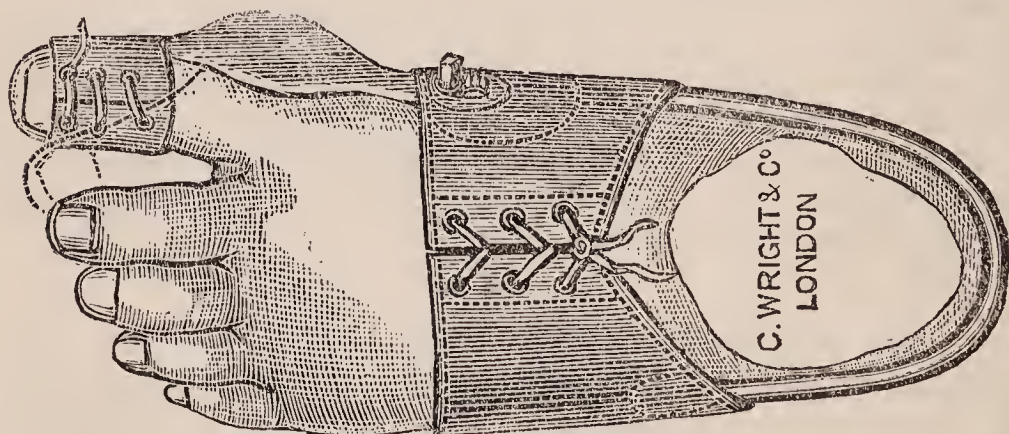
#### AFFECTIONS OF THE SKIN, ETC.

**ALOPECIA AREATA.**—Sehlen defends the result of his investigation into the cause of the baldness in Area Celsi, which has been impugned theoretically by Michelson. It is well-known that although the hair follicles have been frequently examined for the presence of a parasite, none which could be considered causal had as yet been discovered. V. Sehlen, however, by making use of a double stain (picrocarmine and gentian violet) demonstrated the presence of micrococci in the inner hair sheath of the affected hairs, and their invariable absence in the sheaths of their unaffected neighbours. He also succeeded in producing a pure culture of the cocci, and when these were inoculated on to white



rats, they produced a disease similar to the *A. areata* of man, and presenting precisely the same histological appearance when the skin was examined in section. The disease has certainly all the characteristics of a parasitic affection, and yields generally to antiparasitic remedies (sublimite). V. Sehlen cedes to Thin the priority of the discovery of the micrococci, but Thin had, of course, no aniline staining and artificial cultivations at that time at his disposal, by which to test the accuracy of his theory.—Lassar supports V. Sehlen's view, and considers that clinically the disease has all the appearance of a local parasitic disease, and not of one due to general pathological and nervous influences. His treatment, which is certainly complicated, although he says very successful, consists in washing with two per cent. sublimite solutions, using tar soap freely, and afterwards rubbing in of two per cent. salicylic acid solution with oil of turpentine. (Dr. H. G. Brooke's abstract in Medical Chronicle, Sept., p. 514.)

**A NEW BUNION SPLINT.**—Owing to the difficulty often experienced in maintaining the great toe in its normal position after continued distortion from badly fitting boots, &c., and in the case of bunion, or enlargement of the joint, Messrs. C. Wright and Co., of 108, New Bond Street, have under my direction manufactured an appliance which, after a trial of some months, fully answers my expectation, and will, I am sure, be found most useful in all cases of similar distortion. It is light, convenient, and easily used during the day, provided that a somewhat larger boot is



worn, and that with square toes. It will be seen by the above woodcut that it essentially consists of a well-fitting band of steel, suitably covered, about half an inch wide, passing round the heel from the base of the toe on the inner side, to a corresponding point on the outer border of the foot, being kept in position by a shaped lacing-piece across the arch, and passing beneath the sole. To the steel band is attached, at its inner extremity, a rack and pinion, by which the toe can be drawn away from the

median line to any extent desired, the pressure of the screw on the foot being relieved by a moulded steel plate, accurately fitted to the side of the foot, and which is cup-shape over the joint or bunion, and covered with soft leather. From the screw and rack, a firm piece of metal is continued on to the end of the foot, and, as the woodcut shows, is provided with a leather stall, which laces round the toe and grasps it tightly. When extension is applied with the key, the toe is immediately drawn from the median line, and, although the whole structure of the instrument is light, it is maintained in position. Beginning with moderate extension, after a week or so, the toe is readily placed in its normal state. The splint can be worn whilst walking; but, if it cause the patient pain from the constrained position of the toe, it is advisable at first for it to be removed whilst exercise is taken, but reapplied when that is finished, and especially during the night. (Mr. Edmund J. Spitta, *British Medical Journal*, May 30, p. 1110.)

**ECZEMA.**—*Local Therapeutics of.*—The following is taken from a reprint by Dr. Ashby, of a paper on “Eczema in Childhood,” by Unna, of Hamburg:—

1. *Oils.*—Olive, almond, and linseed oils are principally of use in removing the crusts from the scalp in cases of eczema capitis. Of these the last is the most generally useful. They may be combined with various antiseptics, as sulpho-ichthyol of soda (1-2 p.c.); chloral hydrate (1-2 p.c.); salicylic acid (1-2 p.c.); camphor (·2-1 p.c.); corrosive sublimate (·2-1 p.c.); balsam of Peru, or tar (2-5 p.c.). Cod-liver oil, by itself, or in an emulsion with mucilage, is of much service externally in the impetigo or eczema of scrofulous subjects.

2. *Liniments.*—The most valuable of this class of applications for the treatment of acute eczema or of conditions of great irritability of skin is a mixture of equal parts of lime water and linseed oil. The lime water saponifies a small portion of the oil, and holds the rest in suspension in the form of an emulsion. When applied to the hot, irritable skin, the evaporation of the watery constituents has a cooling and soothing effect. A dilute solution of subacetate of lead may replace the lime water. A thicker consistency may be given to the liniment by rubbing up with it finely-powdered chalk, soda bicarbonate, or oxide of zinc. Acids, as salicylic, are incompatible, but neutral substances, as balsam of Peru or tar, may be added. This liniment may be used for cleansing the crusts from eczema of the face or scalp where ordinary soap causes irritation. If used as an application to the face, it is preferably thickened by the addition of some basic powder.

3. *Paraffin Compounds.*—Crude petroleum is useful for painting



on the scalp to destroy pediculi. Vaseline is used in various ways, more especially as the basis of ointments. The vaseline compounds are less readily absorbed by the skin than oils, and keep the skin moist a longer time. They are also more soothing, giving a feeling of coolness like the lime-oil liniment. These paraffin compounds are most suitable for substances which, like pyrogallic acid, are easily decomposed, for the tarry substances which are volatile at the temperature of the body, and for application to certain irregular, wrinkled surfaces, as the eyelid and scrotum. They are unsuitable for substances which are intended to be absorbed by the skin.

4. *Fatty Bodies*.—Fat, as the basis of ointments, has, on account of its tendency to rancidity and its greasy nature, been largely replaced by vaseline and glycerine in making ointments and “pastes.” The rancidity can, however, be prevented by the admixture of benzoin, salicylic acid, &c. Fat ointments are to be preferred in the dry, papulose, universal eczemas, which are apt to pass into prurigo. When fatty ointments are being applied to an extensive surface of skin, it is important that the child should be enveloped in flannel or remain in bed between the blankets. Ung. leniens, or cold cream, is a useful “cooling ointment,” its contained water being gradually given off by evaporation. Pure fat retards the escape of heat from the body. Its formula is—Spermaceti, 1; white wax, 1; almond oil, 10; water, 10.

5. *“Salbenmulle.”*—This is a new form of application devised by the author, and consists of sheets or bands of fine cotton material incorporated with various kinds of ointments. It is usefully employed in the treatment of local eczemas in children, all that is necessary being to cut a piece of suitable size, apply it to the affected part, and secure it in position by means of a light bandage. Similar sheets are prepared without fat or vaseline, dextrin and glycerine being used.

6. *“Pflastermulle.”*—This is somewhat similar to the salbenmulle, various medicaments being spread upon gutta percha tissue instead of cotton sheeting, the plaister adhering to the part without the necessity of a bandage. The zinc and corrosive sublimate pflastermullen are especially useful in circumscribed obstinate eczemas of children.

7. *Starch Vaseline Paste*.—This form of paste has been much employed by Lassar in the treatment of eczema of the face and scalp in children. It consists of zinc oxide, 25; starch, 25; salicylic acid, 2; vaseline, 50. Other drugs may replace the salicylic acid, as camphor (.5 p.c.), tar (2-5 p.c.). The paste is applied to the scalp so as to form a thin layer, which forms a crust under which the eczema spontaneously heals. When the exudation is excessive, the crusts are lifted up, and fresh paste

must be applied. The dried paste may be removed by oiling, soap, and hot water.

8. *Dextrin Paste*.—This forms a cheap and cleanly application for eczema—Zinc oxide, 20; dextrin, 20; water, 20; glycerine, 30. The mixture is to be heated to boiling, but not continuously boiled. The gummy compound which results is to be applied over the affected part with a brush.

9. *Starch-Glycerine Paste*.—A cheap modification of the above is zinc oxide, 20; starch, 10; glycerine, 10; water, 80. Boil and evaporate to 80.

10. *Gum Pastes*.—In scrofulous eczema or impedigo, an application of equal parts of cod-liver oil and mucilage of gum arabic is often of much service. Equal quantities of zinc oxide, starch, glycerine, and mucilage of gum make a good application.

11. *Lead Paste*.—This is the most useful of all pastes for old, infiltrated eczema of a nervous character, and in combination with tar in parasitic eczema. It contains—Litharge, 50; dilute acetic acid, 80; heated to the consistency of a paste, with 10 parts of linseed oil added. A milder preparation is the following—Litharge, 30; starch, 10; glycerine, 30; dilute acetic acid, 60. Evaporate to 80.

12. *Glycerine Jelly*.—This preparation is especially suitable for acute or subacute eczema. It consists of—Zinc oxide, 10; gelatine, 10; glycerine, 40; water, 40; sulpho-ichthyol of soda or sulphur, 2. Or—Zinc oxide, 10; simple ointment, 10; gelatine, 10; glycerine, 70; salicylic acid, 5. It sets as a jelly, and before it can be used it must be liquified by placing the gallipot in warm water. It is then applied by means of a brush. It can readily be removed from the skin by washing. (Medical Chronicle, May, p. 161.)

ECZEMA AND OTHER SKIN DISEASES.—*Oleum Deelinæ*.—This oil, as its name implies, is manufactured on the banks of the Dee, by the Dee Oil Company, by a process of refining. I may say without fear of contradiction that it is considered the most pure and refined of its kind in the market. I am not a believer in particular panaceæ and their reputed curative virtues, but I can speak from experience of the greater medicinal properties this oil possesses over any of its family which it has been my custom to prescribe in skin diseases. I have used vaseline extensively, both by itself and as a basis for ointments in a variety of skin diseases, but never found anything so efficacious and satisfactory in its results as Deelina oil. It possesses several qualities to recommend itself. It is clean, inodorous, and does not become rancid, and, for all it is an oil, it would appear paradoxical to say that there is little or no greasiness left after its application. As it is so easily absorbed, I have prescribed it in many cases with



success where other remedies had failed. Its therapeutical virtues were accidentally discovered by a gentleman who had been subject to frequent attacks of general gouty eczema, and where all kinds of lotions and ointments had failed to afford any but temporary relief. Decided improvement followed its application at once, and, although he has had several attacks since, no other local application has been used. I now invariably give it the first trial in all cases which I consider suitable for its application. I never prescribe it during the acute stage. I recommend ablutions with either warm bran or oatmeal water, and dry the parts carefully and gently before its application. In all cases of acute general eczema when desquamation begins I order a warm bran or oatmeal bath. Absorbent cotton wool was used in all the cases of eczema of the vulva, to keep the parts separated after the oil was applied. Constitutional causes, if any, were attended to in all the cases. (Notes of forty-two cases in which the oil was used with marked success are given at the end of the paper.) (Dr. John Roberts, Chester, Practitioner, June, p. 402.)

**ERYTHEMA NODOSUM.**—The raised patches of erythema nodosum, which are generally found over the tibiæ, are sometimes very painful, and are usually slow in receding. I have acted in accordance with the belief that this disease is due to inflammation of the lymphatic vessels and spaces, and that it is more closely allied to erysipelas than to any other disease; I have, therefore, treated it antiseptically with sulphurous acid. In three cases, treated in this manner, I have met with marked success, the pain being relieved, and the patches rapidly subsiding. My method is to soak lint in a mixture of equal parts of fresh sulphurous acid of the *British Pharmacopœia* and hot water, heated to boiling-point; the lint is then wrung out, and placed over the patches. When it cools, it is changed for another piece. (Dr. W. E. Buck, Leicester Infirmary, *British Medical Journal*, June 27, p. 1291.)

**ESCHAROTIC.**—*A Painless Escharotic.*—When a saturated solution of cocaine hydrochlorate in strong nitric acid is applied to the uninjured skin, the ultimate result is precisely that which would occur upon the similar application of pure nitric acid, but the time required for the formation of a deep eschar is considerably longer in the former than in the latter case. We have experimented with the mixture just mentioned upon several individuals, ourselves included, and can safely say that the sensations attending its application cannot be accurately described as painful. There is, however, a slight pricking sensation soon after the mixture is first dropped upon the skin. (Drs. N. A. Randolph and Samuel G. Dixon, *Philad. Med. News*, Jan. 24, p. 100.)

**LUPUS.**—The difficulty of subduing lupus successfully is plainly evinced by the number of new methods and proposals which are constantly being put forward with this as their aim. There can be, of course, but little doubt that much new savour has been given to this standing dermatological dish by the discussion as to the tubercular nature of the disease. Besnier (Paris), who is a strong advocate of the tubercular theory, proposed to replace all previous operations which involved bleeding, and therefore, as he thought, the probability of a general inoculation from the merely local bacillus, by galvano-cautery. This procedure he has, however, found to be difficult of application to old extensive cases of lupus, such as we often see accompanied with many scars, and he has therefore replaced it with success by Schwimmer's pyrogallic acid treatment. Schwimmer used a vaseline salve, but Besnier prefers an ethereal solution, which he dabs on to each spot with a hair pencil. A thin powdery layer of the acid is left, which must at once be covered with *liq. guttæ perchæ*. An irritation like that of vesication follows, the granulomatous tissue is necrosed and thrown off, and a smooth scar is left in its place. Lesser, while commending these local caustic processes, has been led, by the influence of the new theories, to repeat Buchner's experiments with the administration of arsenic, in the hope of acting directly upon the bacillus tuberculosis by this means. Fowler's solution, diluted with the same or double the quantity of water (to avoid the pain caused by the pure solution), was injected subcutaneously in a number of cases, beginning with 3 drops and rising to 30 m. per diem; or the arsenious acid was given in pill form, beginning with 10 mgrm. ( $\frac{1}{60}$  gr.) and rising gradually to 20—36 mgrm. Of five patients who remained sufficiently long under treatment to give decisive results, one showed no effect whatever; in the others a most remarkable absorption of the lupus tissue took place, beginning in the second month, and progressing steadily until the lupus tissue was almost completely absorbed. But the absorption, even under the continued use of the drug, was never complete, and Lesser is constrained, therefore, to recommend arsenic as a most useful auxiliary to local treatment rather than as an agent which is of itself curative. For the treatment of such small remnants and of the punctiform aftergrowths which crop up in the meshwork of the scars which follow most surgical attacks on lupus tissue, G. H. Fox advocates the use of the fine dental hook and burr (small globular file), with the working of which we are most of us somewhat painfully acquainted. By driving them into the lupus masses, and revolving them between the thumb and finger, the new growth can be removed; but they would hardly seem to be so suitable for the purpose as the double-headed screw devised by M. Morris. (Dr. H. G. Brooke, *Med. Chron.* June, p. 249.)



*Lupus.—Treatment by Scraping.*—I have had some experience of local methods of treatment, each of which, perhaps, has its own proper sphere, but, speaking broadly, I prefer the method by scraping, or erosion. And a comparison of the practice and results of the treatment of lupus at the present time with the results expected or attained twenty or even ten years ago will show, beyond question, that if lupus cannot as yet be expunged from the list of *opprobria medicinæ*, still the disease has been deprived of some of its repulsiveness, its ravages have been more effectually checked, and its prognosis has been materially brightened. I shall not now enter into details of the actual procedure in either case, but will content myself, in conclusion, with summarily specifying the individual features of these two methods. *Erosion, or Scraping*—1. Differentiates sound from diseased tissue, for healthy skin will not give way to the spoon. 2. It is rapid of execution. 3. It is, as a rule, not followed by much after-pain. 4. The scraped surface heals wonderfully quickly. 5. It leaves a level and tolerably slightly cicatrix. *Scarification*—1. Is applicable to some situations, and in some cases, where erosion is unsuitable or inadvisable. 2. It is less painful, and, to some persons, a less repellent operation. 3. There is a minimal loss of substance. 4. It is especially adapted for diffuse non-ulcerating infiltrations. 5. The scar left is scarcely distinguishable from the healthy skin, and it is said not to be liable to cheloid growths, which sometimes develop upon the scars left by scraping operations. (Dr. W. G. Smith, p. 336.)

*Lupus.—Mercurial Plaster and Pyrogallic Ointment.*—Professor Schwimmer states that after a trial of all the remedies which have been recommended for lupus, he has found the best results from the employment of mercurial plaster in conjunction with the use of pyrogallic acid. He remarks that the number of patients affected with the most malignant forms of lupus who were subjected to this treatment, and who remained under careful observation until its close, amounted to twenty. The following was the course pursued with all of them. For several days after admission the diseased surfaces were kept completely covered with vaseline smeared on cloths, in order to facilitate the removal of all secondary morbid products, such as scabs, &c. A ten per cent. pyrogallic ointment was then applied over the same area, and renewed two or three times in twenty-four hours. This dressing was employed for four to six days, or in cases where the cutaneous tissues were insensitive, for six or seven days. On its removal vaseline was again applied for one day, after which the entire suppurating surface was covered with mercurial plaster. Healing began in from ten days to a fortnight in most localities, but isolated nodes and tubercles could still be detected in the cicatrised integument. Pyrogallic

acid was now once more applied for three or four days, causing renewed suppuration of the partially healed infiltrations, while those more firmly skinned over remained unaffected. When treatment was repeated, so much pain in many cases was experienced on the second day that mercurial plaster had to be at once substituted for the ointment; but if this was not the case, the latter was left on for two or three days longer. The grey plaster was allowed to remain—being changed once daily if the suppuration was trifling, twice or thrice if it was more profuse—until cicatrisation was complete, which sometimes required four weeks. When the complaint was peculiarly indolent and obstinate, the same process was gone over a third time, but treatment never extended further than this. He adds that the severest and most extensive forms of lupus—those hitherto most difficult and frequently impossible of management—may often be essentially ameliorated by these simple and comparatively painless procedures. (Glasgow Medical Journal, May, p. 392.)

**ONYCHIA.**—Practice in the out-patient departments of two hospitals has brought to my notice a number of cases of this stubborn disorder, and has led to my adopting a method of treatment which is so satisfactory that I think it worth while to call attention to it. It is not new in principle, but I think the details of it are not to be certainly gathered from the suggestions which are to be found in some of the works on surgery. The plan I refer to consists in washing the usually stinking finger or toe-end with a weak solution of permanganate of potassium, trimming the nail back to where it is attached to the matrix, dusting on a *fine powder* of iodoform, and covering the whole in with turns of a narrow strip (not more than a quarter of an inch wide) of adhesive plaster. The plaster I prefer is the rubber adhesive plaster, which fits better, because it is softer, than ordinary adhesive plaster, and is much easier to apply, because it requires neither heat nor moisture to fix it. (Dr. C. W. Dulles, p. 337.)

**PRURITUS.**—Dr. Duhring recommends the following formulæ as useful applications in this troublesome affection: (1) Lotions containing carbolic acid and thymol, simple or as follows—Acid. carbol., ℥ss to ℥j; potassæ ℥ss; aquæ ℥iv; to be used diluted with water. (2) Hydr. bichlor. gr. viii, alcohol ℥iv, aquæ ℥iiiss; use diluted. (3) Essence of peppermint and glycerine equal parts; dilute hydrocyanic acid 1 to 4 drams to a pint of water, and hyposulphite of sodium 1 dram to the ounce, may prove useful. (4) Boracis ℥ij, glycer. ℥ss, sp. camphor. ℥j, aq. rosar. ℥viss. (5) Fol. belladon., fol. hyoscyami āā ℥ii, fol. aconit. ℥ss, acid acetic ℥j; to be diluted with water 1 dram to the oz. (6) Camphor, chloral. hydrat. āā ℥j; unguent. aquæ



rosar. ℥j; to be applied several times daily. (Philadelphia Medical News.)

**RINGWORM.**—The subjoined formula for the local treatment of ringworm is suggested by Dr. Payne's lecture on the treatment of that epiphytic disease. In sending it, I am simply handing down a form received from others, and used in the out-patient practice of the Manchester Infirmary, many years before the publication of the British Pharmacopœia. When the acidum sulphurosum was made officinal, it was used for a time instead, but we had to revert to the old form made up of materials fully recognised and explained in Squire's *Companion*. The form is: R. Sodæ hyposulphitis dr. j; solve in aquæ fl. oz. viij; et adde acidi hydrochlorici fl. dr. j; for outward use only. The use of this lotion, as water-dressing covered with oiled silk, and accompanied by daily washing in soft soap and water, has proved as perfectly satisfactory as Dr. Payne says the principle of the treatment of ringworm is perfectly simple. It fulfils Dr. Payne's conditions, and kills the fungus. I presume the sulphurous acid gas acts beyond the limits of the aqueous solution. (Dr. Henry Browne, Manchester, British Med. Journal, June 6, p. 1153.)

**SMALL-POX.**—*Its Differential Diagnosis.*—In the early stages of variola, that is, before the well-established characters of the eruption have become fully developed, the chief difficulties in diagnosis arise from the occurrence of scarlatiniform and measly rashes, the varied forms of the eruption in the hemorrhagic varieties of the disease, the want of clear views on the subject of chicken-pox, and the practice of vaccination. In all cases where doubt arises, the only reliable basis upon which to form an opinion is the history of the case in question. Many errors arise from the very natural, but dangerous, tendency to form a diagnosis upon some one prominent sign, such as the eruption. It should always be borne in mind that, in the same way that not every patient with a high temperature and a red skin is suffering from scarlet fever, a pustular eruption with pyrexia does not invariably denote a case of small-pox. (Dr. Alex. Collie, p. 328.)

**SYCOSIS.**—*Wilkinson's Ointment.*—Dr. H. v. Hebra recommends the modified Wilkinson's ointment as an excellent application in sycosis. The formula is—R. Sulphur. sublimat., ol. cadini āā ℥iv; saponis mollis; adipis āā ℥j; cretæ præparatæ ℥iiss. M. Ft. ung. The hair on and around the affected part is cut short, and the scabs and crusts removed by the application of any simple ointment. After twenty-four hours the affected part is soaped, shaved, and thoroughly brushed with the Wilkinson's ointment. It is then covered with flannel and a bandage applied. The dressing is changed daily and the ointment washed off, and all the hairs which are surrounded by pustules are epilated and the

pus squeezed out. This is continued so long as pustules form, but even in obstinate cases this ceases in about ten to fourteen days. In slighter cases there are no pustules after the first few days. The part is then shaved only when necessary for the proper application of the ointment. The tender scaling skin soon acquires, by the application of oxide of zinc ointment prepared with vaseline, its usual smoothness and appearance. (Practitioner, Feb., p. 139.)

URTICARIA.—*Pilocarpine*.—In the case of a woman, aged 53, suffering from widely spread urticaria, which had invaded the pharynx and caused intolerable itching, M. Piogey at first tried emetics, quinia, belladonna, and hypodermic injections of morphia, without decided benefit. He then injected two-thirds of a grain of pilocarpine, after which considerable improvement took place. Three injections effected a complete cure, and the eruption did not reappear. (London Med. Record, March, p. 104.)

#### SYPHILITIC AFFECTIONS.

GONORRHŒA.—*Injection of Quinine*.—M. Pierre Vigier states that for injection in gonorrhœa the lactate of quinine is the best preparation of quinine, owing to its greater solubility. His formula is—lactate of quinine 1 gramme, distilled water 75, and glycerine 25 grammes. About 5 grammes should be injected three or four times a day. M. Vigier takes the opportunity of recommending practitioners to more and more employ the lactate in preference to any other preparation, whether for internal, external, or hypodermic use. It is the salt which is best adapted for every therapeutical application. (Medical Times, May 9, p. 589.)

GONORRHŒAL RHEUMATISM.—Gonorrhœal rheumatism is a disease concerning which, I believe, some very erroneous opinions exist; and I wish to make some remarks on the disease as it is more commonly met with in young adults. It is undoubtedly frequently overlooked; and the patients, wishing to preserve their reputations for morality, often do their best to deceive their medical attendants. I remember, when I was a clinical clerk, that a young man was admitted at the beginning of the session into the clinical ward, with subacute rheumatism. He remained in till after Christmas, being, in succession, under the care of three different physicians, who treated him according to the most approved plans for ordinary rheumatism. At last, the diagnosis was made by old Nurse Jackson, who said he was a "nasty dirty fellow," and that she had "changed his sheets often enough, and would stand it no longer." About two months ago, two young men attended on the same day among my out-patients, each with effusion into the left knee-joint. In neither was there



a history of injury. My suspicions were aroused by this fact, their healthy appearance, and their ages (between 17 and 20); and I inquired as to gonorrhœa. One admitted a discharge, but the other stoutly denied having anything of the kind. Still unsatisfied, I made the man pull down his trousers, and, squeezing his urethra, demonstrated, to his great discomfort, before all the students, the existence of a purulent discharge. These are instances of the subacute form, attacking in the two latter cases only one joint. The diagnosis is made by the discovery of a purulent discharge from the urethra; the absence of sprain or injury; few joints attacked; little pain, except on movement; and a good deal of synovial effusion. This is the most common form, and the one most generally recognised. (Mr. Clement Lucas, p. 346.)

**INTRA-CRANIAL SYPHILIS.**—*The Use of Mercury in.*—At the conclusion of a clinical lecture upon intra-cranial syphilis, Prof. Anderson speaks as follows upon the use of mercurial preparations in the latest stages of visceral syphilis:—"A long experience has taught me not only that mercury is useful in old-standing cases of syphilis, but that more brilliant results are to be obtained from it than when we have to deal with its earlier manifestations; and that we often succeed with mercury after failure with even large doses of the iodides, as in the second case which I have brought under your notice. While, then, I have thorough confidence in mercurial treatment, I would not like to promise a complete removal of the symptoms by means of it in cases of intra-cranial disease, for syphilitic deposits in the delicate nerve substance may, by their pressure, irreparably damage it, or, by their irritation, lead to secondary disease of a non-syphilitic character in the surrounding parts, over which anti-syphilitic remedies can have no influence. We must, therefore, be more cautious as to our prognosis of visceral syphilis when the nerves or nerve-centres are involved than when other less delicate tissues and organs are in question." (Dr. McCall Anderson, *Lancet*, July 4, p. 4.)

**IODOFORM.**—*Deodorised.*—It is stated that if iodoform is mixed with very finely pulverised coffee in certain proportions the smell is destroyed. The following prescriptions are given for an odourless powder and salve: *Powder*—℞. Iodoform 50; roast coffee, powdered very fine, 25. To be made into a powder with the aid of some drops of spirit of ether. *Salve*—℞. Iodoform 1; paraffin ointment 10; roast coffee, powdered very fine, 3. To be made into an ointment. (From *Wiener Med. Blätter*; *Medical Chronicle*, Sept., p. 483.)

**SOFT CHANCRE.**—*Its Liability to be followed by Syphilis.*—We know that some sores which are caused by contagion in sexual

intercourse do not lead to syphilis, and we know certain facts about these which in a general way, and with the exercise of great caution, enable us to distinguish them from the infecting chancre. These false ones appear much earlier after exposure than do the others; they are attended by more inflammation and more discharge; they are often multiple, or if not so at first they may become multiple. They seldom acquire any definite degree of hardness at their base, and they are attended by enlargement of the lymphatic glands, which is acutely inflammatory, glues all the glands together, and tends to abscess. These non-indurated inflamed ulcers may vary much in aspect. Some of them are little more than abrasions, and soon get well; whilst others are large, abruptly margined, and very difficult to cure. As a rule, they are easily treated, and the application of powdered iodoform will quickly heal nine out of ten. The secretion from these sores, if inoculated on the patient's skin, will produce a sore exactly like the original one, and this may be done over and over again, thus proving that the system is not infected. Although, as a rule, nothing constitutional follows these sores, yet every now and then it happens even to the most careful observers that a sore, which was thought to be non-indurated and non-infecting, is followed by syphilis. Nothing is more common than for a sore which began a few days after exposure, and which either healed quickly or remained open for two or three weeks, to be followed at the end of five weeks by induration, and later on by constitutional syphilis. (Mr. J. Hutchinson, p. 342.)

#### AFFECTIONS OF THE EYE AND EAR.

**ABUSE OF MYDRIATICS.**—Atropine is invaluable in iritis, but most injurious in glaucoma. It is so injurious in the latter affection that sometimes most deplorable results follow its use; and the difficulty of diagnosis between iritis and glaucoma is very great to a man in general practice, because those cases are but seldom met with by him. Would it be well, in view of these deplorable cases, to lay down a law that atropine should be employed as a matter of routine practice in all cases of inflammatory affection of the eyeball, on the ground that it could do no harm and might prevent adhesions? It would certainly simplify practice very much if such a rule could be adopted, but in point of fact atropine is as injurious in some cases as it is indispensable in others; and although, as we have seen, serious damage is done by the neglect of mydriatics, their employment is occasionally fraught with danger and followed by disastrous consequences. In fact, I have at the present time three patients under treatment whose sight has been



injured, and one in which it has been destroyed, by the injudicious employment of this valuable remedy. It not unfrequently happens that cases of inflammatory glaucoma are mistaken for iritis and positively ruined by the instillation of atropine used with the very best intentions. The general practitioner who treats these cases of eye disease, unless exceptionally well informed, is beset by dangers—a Scylla and Charybdis, in fact: on the one hand, blindness from adhesions if atropine is neglected; on the other, glaucoma if it is employed in unsuitable cases. As a rule young people are not likely to suffer from glaucoma, and the employment of atropine with patients under thirty, forty, or even fifty, is comparatively safe. I have seen glaucoma aggravated by very weak solutions of atropine, and the same remark applies to homatropine, which it was hoped might be employed with safety; in fact, I have at the present time a lady patient under treatment in whom glaucoma was induced by a 1 per cent. solution of homatropine. (Dr. C. Bell Taylor, p. 349.)

**AURAL EXOSTOSES.**—Mr. Field is led by his experience to the following general conclusions with respect to ivory aural exostoses:—1. They are by no means necessarily associated with a rheumatic, gouty, or syphilitic diathesis. 2. Their causation can, with strong probability, be ascribed in many, if not in all, cases to some local irritation of the external auditory meatus, such as may be set up by habitual sea-bathing. 3. They can be most efficiently treated only by drilling, which with proper precautions—notably the use of a pliant and not brittle steel guard to protect the ear in the event of slipping of the drill—is a perfectly safe operation. 4. Their prompt removal is indicated in all cases where (a) they hinder the elimination of secretions and discharges from the auditory canal; (b) where they occasion pain by pressure on neighbouring structure; (c) where they threaten completely to block the meatus, and so to deprive the patient partially or wholly of hearing. (Mr. George P. Field, *Lancet*, May 30, p. 981.)

**DEAFNESS.**—*The Three Forms of Deafness.*—The first form of deafness is obstructive—the nerve and nerve centre is good, but there is some obstruction to hearing in the apparatus, as cerumen in the external ear, or catarrhal blocking up of the Fallopian tube. The second form is exhausted hearing from exhaustion of the nerve or nerve-centres. Usually the deafness is nearly complete, and comes on suddenly after some exhausting strain, or mental shock. The tuning-fork is not heard when resting on the bone of the head, as it is in the obstructive form of deafness. As to the treatment, while nervous deafness, like obstructed hearing, may disappear suddenly, we cannot assign the period at

which its disappearance may be counted upon. This, of course, is unsatisfactory; but it is not a little encouraging to find in pilocarpine, subcutaneously injected, a most promising remedial agent, and one that, in Dr. Barr's hands, has proved rapidly remedial. Gelsemium, too, has, in my hands, effected great things; and I can aver that there are a train of symptoms in every way resembling those of Ménière's disease, but in which there is a nervous history, and in which this very valuable remedy proves curative. Dr. Sydney Ringer testifies to its efficacy in Ménière's disease, and I am sure it is in those cases in which nervous manifestations predominate in which it is so beneficial. My own experience, as well as a consideration of the nature of the affection, goes to prove that nervous deafness is quite as curable as are the nervous seizures of other organs. There is a *third form* of enfeebled hearing, which may be called vascular deafness, from chronic irritative or inflammatory action primarily in the vessels. It is frequently accompanied by *bruits*, which are even audible with the stethoscope, in the cervical blood-vessels. (Dr. Robert T. Cooper, p. 366.)

**GRANULAR OPTHALMIA.**—*Jequirity*.—Dr. Buller, Prof. of Ophthalmology in the McGill University, observes, speaking from a large experience in granular ophthalmia, that "he feels satisfied there is no other remedy so efficient as jequirity for clearing a trachomatous pannus. It is more rapid and certain than peritomy, and far less dangerous than inoculation. When used with proper care it is a safe remedy, and is not contraindicated by the presence of ulceration of the cornea. It may cure the granulations and remove pannus without producing its characteristic form of inflammation; but, as a rule, the best and quickest results are seen after strong attacks of jequirity ophthalmia. Those who wish to use the remedy with safety will do well to begin with a two or three per cent. solution of the pulverised decorticated beans, making only one application daily. When the remedy fails to set up severe inflammation, its use is devoid of danger and frequent repetition admissible. In some cases partially cured by jequirity, but in which the clearing process seemed to have come to a standstill, instead of repeating the remedy, I have used oxide of mercury (gr. x ad ʒj) with excellent effect, and that in cases where the same ointment had failed to benefit prior to the use of jequirity." The solution which Dr. Buller employed is made by macerating three parts by weight of the powdered beans in 100 parts of cold water for 26 hours. The solution is then filtered, and ready for use. Dr. Cheatham, of the Louisville University, states that he has used jequirity in 75 cases in nearly all stages of the disease with almost uniform and prompt success, and with no bad results whatever. In place of the infusion he employs it in the form



of impalpable powder, which acts more rapidly and effectually, and is more convenient, as it keeps unimpaired in power for any length of time, while the infusion has to be freshly prepared. Placing a little cotton on a holder, he brushes a little over the surface of the conjunctiva, feeling his way by putting a very small portion of the powder on at the first application. If this does not excite excessive inflammation, and does not correct the granulation of the conjunctiva in about three or four weeks, he applies a larger quantity. He believes that the danger accruing from jequirity has been exaggerated, inasmuch as the inflammation resulting from its use is easily controlled by cold water. (Medical Times, May 9, p. 624.)

MIGRAINE.—*Its relation to Defects of Vision and Treatment by Glasses.*—Mr. Hewetson, of Leeds, has done good service by calling attention to the fact that, beyond the well-known causal relation between the ordinary form of headache and anomalies of refraction, a not inconsiderable number of the cases usually classed under the somewhat doubtful head of migraine, have their origin in some defect of vision, chiefly of the nature of astigmatism. There is thus added another to the already long list of "peripheral irritations" from which these so-called "nerve-storms" may arise, one, however, which admits, in competent hands, of speedy and permanent relief. Mr. Hewetson's paper points with great weight to the absolute necessity for routine examination of the eyes in all cases of ordinary or periodic headache, as well as in more remote nervous discharges. (Mr. H. Bendelack Hewetson, p. 360.)

MUMPS, A CAUSE OF EAR DISEASE.—During thirteen years' practice, I have met with about forty cases in which the connection between the deafness and the parotitis could be clearly traced in patients seen within a short time after the attack. In about as many more there were good grounds for suspecting mumps as the exciting cause of the existing ear defect. Under the heading of mumps, in Ziemssen, a work published within the last few years, there is a complete absence of any indication to show that deafness is amongst the sequelæ of parotitis. Vogel, the writer of the article in question, curiously enough speaks of mumps as produced, amongst other causes, by extension of inflammatory action from the auditory apparatus, and says that where pus is formed in the parotid gland, it may pass along the vessels and nerves that go from the parotid to the ear. During the last twenty years, in consequence of increased knowledge of the value of the tuning-fork in the diagnosis of disease of the middle and internal ears, much more attention has been given to the enquiry by aurists, and an increasing series of reliable observations have been compiled. (Dr. F. M. Pierce, p. 368.)

## MIDWIFERY, AND DISEASES OF WOMEN, ETC.

**AMENORRHOEA.**—*Santonin.*—In cases of amenorrhœa, especially when associated with chloro-anæmia, santonin, given in 10-grain doses for two consecutive nights, followed each morning by a Seidlitz powder, will frequently cause the appearance of the catamenia, provided it is given at the proper time and in a suitable case—*i.e.*, when the system requires the relief of the monthly discharge. This treatment is purely empirical at present, but in practice it is found to answer. (Mr. Walter Whitehead, p. 406.)

**ALEXANDER'S OPERATION OF SHORTENING THE ROUND LIGAMENTS FOR UTERINE DISPLACEMENTS.**—The following is the most recent description of his operation published by Dr. Alexander:—It consists in cutting down upon the external abdominal ring, the incision beginning at the pubic spine, and passing upwards and outwards in the direction of the inguinal canal, for one or two inches, according to the stoutness of the patient, and the experience of the operator. By subsequent incisions, the glistening tendon of the external oblique, and the external abdominal ring, are to be fully and clearly brought into view. On turning out the contents of the ring, the round ligament is exposed, and should be gently drawn out by the fingers of the operator. Where the operator's fingers are inexperienced, a broad-pointed pair of forceps may be more successfully used for this purpose. As the ligament is drawn out, adhesions to the surrounding tissues should be snipped through with scissors. After a little coaxing, the ligament runs with facility. When it is found to control the uterus (already placed in the desired position), the ligament is to be stitched by three catgut sutures to both pillars of the external ring. The opposite side is now treated in the same way. The slack of each ligament is to be packed beneath the skin or cut off according, as it is healthy, or much frayed and squeezed through extrication of the beginning of the ligament. The deep sutures should be loosely but securely tied, so as neither to constrict the ligament nor readily to let it slip back into the abdominal parietes. The wound should, in all cases, be drained to avoid tension. Any suitable dressing may be applied. A pessary is lastly to be inserted to support the womb, during the healing process, and may be retained for about a month for this purpose; but after this the patient is much better without any support. Rest in bed for about three weeks is, I think, absolutely necessary to allow of good union at the external ring. In some cases *more* time may be required, but it would probably not be safe in any case to allow *less*. (p. 427.)

*Alexander's Operation.—Its Difficulties.*—The chief point to insure success in finding the ligaments is to expose well, in the first



instance, the glistening tendinous pillars of the ring and its contents. Then deliberately turn out on a director or aneurism needle the contents of the ring, when the ligament will be recognised lying to the lower side or sometimes in front of a mass of fatty and fascial tissue. It may be known by its grey colour and by the genito-crural nerve that lies close upon it. This nerve, as well as fascial bands that join it to the neighbouring tissues, must be snipped through with scissors; and, in doing this, care must be taken not to cut all the ligament away. In two cases I found the ligaments so brittle that they would not pull out. In both, adhesions had occurred on one side of the pelvis, and in both the opposite ligament was so strong as to answer the purposes of both up to the present time. Before attempting the operation, I would recommend all surgeons to practise it on the dead subject, or see it done again and again on the living. It is very easy to perform to those familiar with it, but very difficult to those who have very little idea of the appearance of the structures they seek, and of their exact location. (Dr. Alexander, *Annals of Surgery*, May, p. 431.)

[Some valuable remarks upon the results of the operation, abstracted from the same paper as the above, will be found at page 384.]

**ANTISEPSIS DURING LABOUR.**—In every case, the hands of the attendant should be washed in carbolised water before he proceeds to examination; and both before and after the labour the vulva should be sponged with warm antiseptic solution; and if the case tend to be tedious, though not sufficiently so to necessitate forceps, it is advantageous to sponge out the genital canal from time to time with a similar solution. In all operative cases, I need hardly say, it is now customary to dip the instrument in hot carbolised water; but I am satisfied it is also most useful to sponge out with the same solution the genital canal prior to their application. In a labour in which the forceps, and *à fortiori* where craniotomy, is demanded, there has, at least very often, been sufficient delay to lead to a septic condition of the discharges; and the removal of these by sponging much diminishes the chance of subsequent infection, should any breach of mucous surface occur as a result of the delivery. (Dr. H. Gervis, p. 379.)

**ANTISEPTIC PRECAUTIONS AFTER LABOUR.**—I lay much stress upon the utility of an uniform and careful inspection of the genital outlet after every labour, and to urge the importance of its being regarded as much a matter of routine as placing the hand on the hypogastrium or feeling the pulse. I believe that, if this were systematically done, and any tear, however slight, treated antiseptically, either by carbolic oil or by iodoform,

cases of septic infection would be very considerably diminished in number. Of antiseptic solutions for irrigation-purposes, I should like to say a word in favour of the mercuric chloride solution. In a strength of one in 2,000 for injection, and one in 1,000 for washing purposes, it is certainly of the highest value. That it must be used with caution, is doubtless true; but this is also true of carbolic acid, and, with but few exceptions, when symptoms of poisoning have occurred, they have been but slight and transient. The solution of boracic acid, in a strength of 10 grains to the ounce, is also of much value. It is not, perhaps, so powerful an antiseptic as the sublimate solution; but for the vaginitis which accompanies the lacerations it is particularly soothing. (Dr. H. Gervis, British Med. Journal, Aug. 1, p. 202.)

**CANCER OF THE UTERUS.**—*Its Treatment by the free use of Caustic Potash.*—At the Medical Society of London, on April 27th, Dr. Snow reviewed the statistics of extirpation of the uterus, and showed the severe mortality which followed the abdominal or the vaginal operation. In many cases the écraseur was unable to remove the whole of the disease of the cervix uteri. The actual cautery had too superficial an action to be of any great service. Chloride of zinc caused much pain and distress, which lasted a long period. These objections did not hold with regard to potassa fusa. Half an hour or an hour was recommended to be spent in the employment of successive sticks of potassa fusa, for the treatment must be thoroughly carried out. None of the cases suffered from peritonitis; and unless the patient get up too soon after the operation, nothing distressing need be feared. All the cases were greatly benefited, and no alarming symptoms were encountered. Fixation of the uterus and infiltration of the vaginal wall were regarded as prohibiting the employment of this method of treatment. It was only by degrees that he had ventured to apply the caustic so freely as he now advocated. He illustrated the paper by narrating several cases in which the treatment had been adopted. The object of the paper was to show that potassa fusa could do all that the vaginal cutting operation could perform without running the risk of the severe operation. (Dr. Herbert Snow, Lancet, May 9, p. 846.)

**CHRONIC VAGINITIS.**—Dr. Braxton Hicks, in speaking of the treatment of chronic vaginitis, and specially of cases accompanied by granulation, bleeding, and profuse suppuration of the vaginal mucosa, says, "The mode of application is of more importance than the kind of drug employed. The material should be in contact with the diseased membrane for ten minutes at the very least, if possible for an hour, or, better still, for twelve hours; if used as an injection, the patient should be in the horizontal



position. But it is best in all cases to commence treatment with a good swabbing of the upper half of the vagina with strong carbolic acid or iodised phenol through the speculum, which should be retained for five minutes, and then the superfluous portion removed by dry cotton. Care should be taken that a portion be not drawn down to the vulva; if it should be, pain will ensue; this, however, can be removed by washing the part with wet cotton. Care also must be taken lest the carbolic acid run down the speculum on to the thigh or drawers, for if it does, a blister will ensue, and much grumbling likewise. This carbolic application might be repeated in about six or seven days, whilst twice every day an astringent lotion can be employed as strong as can be borne without distress. Of these there are numerous kinds:—Chloralum solution (one ounce to the half pint), tannin (two drachms to the half pint), boroglyceride (one ounce to the half pint), the old sulphate of zinc and alum lotion, tannin and alum mixed, tannin with iodoform, bichloride of mercury (1 in 1,000). Preceding the use of either of these, it is well to employ an antiseptic douche, in order to wash away the secretions which would impede the action of the astringents. But I prefer to apply every three or four days, through the speculum, a stronger astringent than can be employed by the syringe—such as the tincture of muriate of iron diluted three times, strong chloralum; or, as recommended by Dr. Oldham, the walls of the vagina can be kept apart by a plug of cotton. An excellent way of effecting this is by using pledgets of cotton with a string attached, diffusing through them dry powdered tannin and alum with a little iodoform, passing these through the speculum and leaving them behind, and removing them after twelve hours. This can be done every second or third day. But I think that although the healthy vagina tolerates anhydrous sulphate of zinc and the tincture of muriate of iron or the weaker solution, yet when it is abraded or spongy these agents are apt to cause exfoliation of too severe a kind. The ordinary sulphate of zinc or alum, however, it will readily bear. These and similar expedients will, if continued steadily, almost always cure the condition as far as the vagina is concerned; but inasmuch as the mucous membrane of the uterus is often involved, attention must be directed to this part, or the vaginitis will recur. (Dr. Hicks, *Lancet*, April 4, p. 611.)

**CORROSIVE SUBLIMATE IN OBSTETRICS.**—Two cases of mortal poisoning by uterine injections of Von Swieten's fluid are actually known to have occurred. They are reported by Drs. Stadtfeldt and Stenger in *L'Union Medicale*. They are perhaps debatable, but should lead the accoucheur to use corrosive sublimate only with certain precautions, and with a knowledge of the reason therefor. This reserve made, corrosive sublimate nevertheless remains the best antiseptic in obstetrics. The

statistics furnished by the different maternities of Paris, and particularly by those in the service of Prof. Tarnier, where the agent has been employed for the first time, are sufficient evidence on this point. Hofmeier reports the cases above referred to in the American Journal of Obstetrics for September, 1884. The first case was that of a primipara, æt. 25, who had been long in labour, and showed some symptoms of fever during the delivery. The soft parts were very unyielding, requiring some slight incisions, and the patient was delivered with forceps. There being some atony, hot injections of corrosive sublimate, 1 : 1000, were given. During the first days of the puerperium the patient presented some very peculiar symptoms : general depression, then a comatose state, together with a certain hyperæsthesia of the whole body, subnormal temperature, and offensive diarrhœa. About the fourth or fifth day these symptoms abated. The patient had some puerperal abscesses, for which she continued under treatment for some time at her house. Albumen was present in her urine a considerable time from the first day on. The second case was that of an eclamptic primipara, æt. 25 ; the eclampsia on the whole ran a benign course ; the patient was delivered by the forceps without material difficulty. After delivery there was some degree of uterine atony, for which a hot irrigation with about six pints of a 1 : 1000 corrosive sublimate solution was given. The hemorrhage ceased, and the patient soon recovered consciousness. On the days succeeding delivery there appeared great hyperæsthesia, subnormal temperature, and profuse fetid diarrhœa. The patient became somewhat somnolent, and death ensued on the fourth day. The autopsy again showed the most extraordinary alterations in the intestinal mucosa, which was enormously swollen and partly gangrenous as far as the transition into the ileum, but especially so in the rectum. The kidneys showed marked deposits, although calcareous deposits, as in Stadtfeldt's case, could not be found. From these cases Hofmeier concludes that the condition of the kidneys has much to do with the poisonous effect of the sublimate. (American Journal of Medical Sciences, April, p. 591).

**DIABETES AND PYOSALPINX**—*Diabetes Cured by Removal of the Uterine Appendages*.—A widow, aged 31, was in very bad health, "ill and wasted." She was found to have diabetes mellitus, and also pyosalpinx. Of course no possible connexion between the two diseases was suspected, but as she did not improve upon diabetic diet, and the excretion of sugar could not be got below 1,200 grains daily, it was decided to remove the uterine appendages, just, we suppose, to give her a chance. One tube was found distended with pus, and both tubes and ovaries diseased. Ten days after the operation the sugar had completely



disappeared from the urine. We append Dr. Imlach's remarks on this most interesting and extraordinary case. "Glycosuria being persistent under anti-diabetic regimen, and the health worse, operation was offered as a forlorn hope. Sir J. Paget makes no allusion to diabetes mellitus among 'the various risks of operations;' but Dr. Dickinson, in his able work on the subject, says that 'surgery is attended with unusual danger;' and Dr. Wm. Roberts states that 'operations for diabetic cataract generally fail from uncontrollable suppuration of the eyeball.' Beyond this element of danger, there was the fear lest the operation should do no good. Diabetes and pyosalpinx are not known in association. The patient was married ten years previously, had a still-born child a year later, and became a widow two years before I saw her. As the pelvic pain was of indefinite origin, the pyosalpinx was probably of ancient date, whereas the diabetic symptoms were recent. Still, there remained the possibility that removal of the suppurating tubes might cure the disease. There was a further argument: the younger the person, the less hope of ultimate recovery from diabetes. 'The development and exercise of the sexual functions,' says Dr. Wm. Roberts, 'appear to have a marked effect in increasing the liability to diabetes in both sexes; and the diminished frequency of the disease in women after the age of 45 (as compared with men) corresponds with the earlier decline of sexual activity in the female sex.' And not only is diabetes less frequent among women after 45; it is also less acute, and does not kill nearly so quickly. By induction of the menopause, it was hoped that the acute diabetes might become chronic." (Dr. Francis Imlach, Liverpool, British Med. Journal, July 11, p. 61.)

**EXTROVERSION OF THE BLADDER.**—*Operation for.*—Mr. Greig Smith, of Bristol, publishes a third successful case of operation for extroversion of the bladder. The patient was a female, three years of age. The tumour formed by the bulging posterior vesical wall was about the size of a pigeon's egg, and the separation between the pubic bones an inch in extent. The operation was begun by cutting off the nymphæ, and turning the extroverted bladder inwards, and keeping it in position by a sponge of suitable size and shape. A flap, in shape corresponding to the gap in the abdominal wall, and a little larger in size, was dissected off the middle line just above the tumour; and then turned upon its face upon the extroverted bladder; two lateral flaps from the sides of the opening, with their bases towards the lobia majora, were then turned inwards over the raw surface of the upper flap, and secured by sutures. Mr. Smith calls special attention to the necessity for accurately suturing the edges of the flap and margins of the abdominal

opening, and the means of securing, by silver loops over rubber tubing, permanent and accurate apposition of the flaps to each other. (Mr. Greig Smith, p. 303.)

**HYSTERECTOMY.**—*Cases in which it should be Performed.*—I think hysterectomy may be reasonably recommended: 1. In very large rapidly growing tumours of all kinds in young women. By a large tumour, I mean one that completely fills the abdomen. 2. In all cases of real fibrous cystic tumours, if they can be removed. Also in cases of suppurating cystic tumours. 3. In most cases of œdematous fibrous tumour which are not cured by removal of the ovaries. These tumours grow to an enormous size, sometimes far larger than any ovarian tumours. I have seen them as large as 200 lbs. Sometimes quantities of red serum can be removed with much relief, and I have several times been able by this means to carry patients over the menopause, when the necessity for further puncturing ceases. 4. In cases of large bleeding fibroids; where removal of the ovaries cannot be accomplished, provided that the patient is not approaching the menopause. In these cases, as a rule, though there are many exceptions, menstruation goes on much beyond fifty. I have never seen it go beyond sixty, though very frequently it is continued till fifty-four or fifty-eight years are reached. 5. In certain cases of tumours surrounded by much free fluid, the result of peritonitis, provided that the fluid shows a tendency to reaccumulate after two or three punctures. My experience is, that after two or three punctures the fluid does not collect, and it often disappears without interference. The simple serous exudation from œdematous fibroids is most capricious. When present to a great extent the tumour will diminish, and when the fluid does disappear, its absence may, from some change in the osmosis, be followed by an extremely rapid growth of the tumour. It must not be forgotten that long-continued irritation of the peritoneal surfaces by large solid tumours is apt to be followed by degeneration of the peritoneum, of a sarcomatous or cancerous nature. The microscopic examination of the fluid will in such cases keep one from falling into error. While large healthy uterine fibroids were present, I have several times removed fluids swarming with cancerous elements, the source of which was found to be altogether in other organs affected with cancerous disease. (Dr. Thomas Keith, p. 387.)

**MISSED LABOUR.**—In the Edinburgh Journal for April, 1885, Dr. Angus Macdonald publishes, with an important review of the whole question of the diagnosis and treatment of the condition, the narrative of an example of this very rare abnormal pregnancy. The patient was 23 years of age, and had considered herself pregnant, but, with the exception of an attack of pains



ten months or thereabouts after the cessation of the menses, no attempt at delivery had occurred; and, when seen by Dr. Macdonald, an abdominal tumour reaching above the umbilicus had been noticed for more than two years. Thinking he had to deal with a rapidly growing fibroid tumour, Dr. Macdonald performed hysterectomy. The parts removed were found to be a sac, the walls of which consisted of uterine tissue, containing a foetus weighing 5lbs. 6oz. undergoing ordinary disintegration. Other points made out at and subsequent to the time of operation, together with some important facts in the history, too long to reproduce here, made it quite clear that the case was one of pregnancy in one horn of a bicornual uterus, in which labour has "missed." (An abstract of Dr. Macdonald's paper will be found at page 371.)

**OÖPHORECTOMY.**—The ovaries are not unfrequently removed for diseases other than ovarian dropsy. These organs are, unfortunately, liable to many other conditions, which, if not equally burdensome and unsightly, are even more painful and exhausting, and which, by general consent of surgical opinion, call equally for their removal. They may be so afflicted with neuralgia as to render life wholly unendurable. Atrophy, indurations, tubercular and malignant degenerations, and adhesions, may, in another way, induce such conditions as may render their removal the only price at which ordinary comfort and freedom from pain can be purchased, or by which otherwise uncontrollable hemorrhage from the uterus can be commanded; and thus it may become a simple duty to remove them—a duty from which no conscientious surgeon of the present day will shrink. In dealing with these organs, and with the uterus, we have the comfort of knowing that they are organs not essential nor even necessary to life. They perform no functions the loss of which can endanger the stability of the future health of the patient; and their loss, supposing their removal to be recovered from, is a loss not necessarily grievously felt by the patient, either at the cost of future suffering or even discomfort. And of the uterus itself the same may be said: and, as a natural consequence of our increasing boldness in dealing with the peritoneum, many uterine operations, and even the entire removal of that organ also, are now considered well within the range of available and justifiable surgery. Uterine fibromata are now—I ought not as yet to say often, but, at any rate, occasionally—exposed by abdominal section, shelled out from their bed in the uterine walls, and the cavities from which they have been displaced so closed as to render recovery not only possible, but highly probable; and, unless I am mistaken, you have within very recent times had an opportunity to see such an operation performed and brought to a successful issue. (Mr. C. G. Wheelhouse, *Brit. Med. Jour.*, April 18.)

**PELVIC HÆMATOCELE.**—*The presence of Urobilin in the Urine diagnostic of.*—Urobilin is an amorphous, reddish-brown powder, possessing feebly acid characters, slightly soluble in water, but freely so in alcohol and alkaline solutions. Dilute alkaline solutions are the colour of ordinary urine, but on the addition of an acid become red. The addition of a few drops of chloride of zinc to an ammoniacal solution of the pigment, produces a most characteristic green fluorescence. Another valuable test is a remarkable absorption band between the green and blue in the spectrum. The appearance of urine, containing an excess of this colouring matter, is so peculiar that it at once suggests the idea of something abnormal in its contents. It varies from a light to a dark brown. In many cases there is a deposit of pigment in the skin and conjunctivæ, causing a brownish discolouration, which has been called bilinicterus to distinguish it from ordinary jaundice. In three cases, reported by Dr. Dick, both the bilinicterus and urobilinuria were present. In the first two they were observed in patients in whom the extravasation of blood had been already diagnosticated, and were evidently the result of it; but in the third case it was their presence which led to the diagnosis of hæmatocele. This patient, aged thirty-five, had three children and one abortion, after which she suffered from pelvic inflammation. Having over-exerted herself at the menstrual period, she was suddenly seized with pains in the abdomen, which continued long after, but the flow did not come on. Dr. Dick first saw the case (in consultation) about five weeks after this. On examination, he found in Douglas' pouch a doughy, irregular tumour, which had displaced the uterus forwards. The skin was markedly yellow, and the urine, which was of a deep coffee-brown colour, contained a large quantity of urobilin. At the end of a month the tumour was aspirated, and dark brown blood was drawn off. Four days after this the icterus returned, and urobilin was again found in the urine. The tumour was again aspirated and a quantity of blood drawn off. After this, however, it rapidly increased in size, until it reached to the umbilicus, but this time there was neither icterus nor urobilinuria. As a rupture of the sac seemed to be imminent, an incision was made into it through the vagina, and a great quantity of putrid matter evacuated. (Dr. Wm. J. Smyly, Dublin Journal of Med. Science, June, p. 479.)

*Pelvic Hæmatocele.*—*Abdominal Section for.*—Dr. Imlach has operated with complete success in five cases of pelvic hæmatocele. In all cases the uterine appendages were found to be diseased, and were consequently removed. The Fallopian tubes in all the cases seem to have been the seat of greater or less hæmatosalpynx. In all the cases also there was profuse and painful menorrhagia. (Dr. Francis Imlach, p. 395.)



**PUERPERAL ECLAMPSIA.**—The following conclusions are enunciated by M. Chambert in his inaugural thesis upon the treatment of puerperal eclampsia. M. Chambert's work is the result of the observations of eight cases, one of which was fatal. 1. A woman presenting the following symptoms, albuminous urine, œdema of the lower limbs, headache, troubles of vision, &c., should be placed on an "absolute milk diet." 2. After convulsions have occurred the bowel should be cleared out, and then an injection should immediately be given, containing six or eight grammes of chloral, according to the intensity of the convulsions. If the temperature rises this should be repeated after two hours, and, if the convulsions still persist, the patient should inhale chloroform. The usual formula for the injection is—New milk, three oz.; yolk of one egg; chloral hydrate, 90 grains. In a plethoric patient, with symptoms of congestion, it is permissible to bleed to an amount not exceeding sixteen ounces. 3. In every case the termination of labour should be hastened, provided dilatation of the os is complete, the forceps being applied or version employed if there is the least delay in the expulsive stage of labour. The milk regimen should be continued till albuminuria has completely disappeared, and if, after labour is over, convulsions threaten or actually occur, a draught of 90 to 120 grains of chloral may be expected to arrest the attacks. Milk regimen, chloral, and chloroform are the most powerful means of modifying the unknown cause which produces puerperal eclampsia. (Dr. Sinclair, *Med. Chron.*, June, p. 239.)

*Puerperal Eclampsia.*—*Treated by Pilocarpin.*—Dr. Campbell makes the following observations upon a case of severe puerperal eclampsia in which the patient's life was to all appearances saved by the subcutaneous injection of pilocarpin (gr.  $\frac{1}{4}$  repeated). Under similar circumstances, I would use the pilocarpin as I did in this case, only not in such large doses. Probably one-eighth of a grain is enough to begin with, to be repeated when its effects are passing away. There was extreme danger of death at one time in my case from the excessive salivation, which could likely have been avoided by using a smaller dose. Though I believe pilocarpin to be a valuable remedy, at the same time it is a somewhat dangerous one, and should be used with caution until the action of the drug is better understood. I would first use the chloral-hydrate, potas. bromid., purgatives, sweating, hot baths (if convenient), chloroform, cold to the head, &c., keeping pilocarpin in reserve, as we did in the case which has just been reported. When better understood, it will no doubt come to be used with greater freedom, and will, we believe, prove to be a valuable acquisition in the treatment of the frightful malady we have just been describing. (Dr. J. Campbell, *Canada Med. and Surg. Journal*, Jan., p. 327.)

**PUERPERAL PERITONITIS.**—*Treatment by the "Opium Plan."*—

The "opium plan," a method of treatment by the administration of almost fabulous amounts of morphia, adopted by a certain school of American obstetricians, forms the subject of a paper by Dr. Garrigues, Obstetric Surgeon to the New York Maternity Hospital. Dr. Garrigues cites eleven cases of general peritonitis arising amongst 192 lying-in women in the course of four months, six of them ending in recovery under the method of treatment above designated. In addition to the large amount of opium given, intro-uterine and vaginal antiseptic douches (usually 2 per cent. solution of carbolic acid) are used as frequently as may be necessary, and large ice-bags are applied to the surface of the abdomen. The details of one of the successful cases are given. It appears from the report that during twenty-three days of her illness the patient was consuming a daily average of nine grains of morphia, nine ounces and a half of whisky, and a correspondingly large quantity of milk and beef tea respectively. It should be stated that the paper appears in reply to an article, by Dr. W. D. Schuyler, on the prevention and treatment of Puerperal Fever, in which the excessive use of opiates is condemned as tending to produce rather than obviate a fatal termination. Dr. Garrigues' paper also bears some internal evidence tending to show that his successful cases were of the nature of sapræmia rather than examples of the more grave condition of true micro-organism infection. (Dr. H. J. Garrigues, New York Med. Journal, Jan. 24, p. 99.)

*Peritonitis.*—*Tolerance of Morphia in.*—At a meeting of the Cincinnati Medical Society in April Dr. Eichberg reported a case of perityphlitis and peritonitis in which during six weeks 340 grains of sulphate of morphia were given, and for twelve days of this time as much as half a grain every hour or twelve grains per diem. The patient recovered. Another feature worthy of notice was that after the failure of soap-and-water enemata two ounces of castor oil mixed with four of olive oil proved effective. During the discussion of the paper Dr. Taylor said that the value of morphia in peritonitis depended on the inflammation not being of septic origin, in which class of cases it was useless. He had himself given thirteen grains in seven hours. (Lancet, June 6, p. 1050.)

**PULMONARY EMBOLISM IN PREGNANCY.**—The rarity with which post-mortem confirmation of the occurrence of pulmonary embolism, in cases of sudden death in pregnant or recently-delivered women, is obtainable, makes the following typical case, recorded by Mr. Shield, well worthy of attention:—A single woman, aged 30, was a patient under the care of Mr. Thomas Pick, for varicose veins in the lower extremities. She was well—



nourished and healthy looking. There were noted to be two clusters of enlarged, hard, painful veins, with redness and superficial œdema on the inner aspect of the left leg below the knee, and the woman was about seven months pregnant. Lotions were applied and strict rest enjoined. One day the patient sat up and commenced to shake her pillow, when the nurse heard a moan in the ward, and, turning round, saw her deeply cyanosed, and gasping in all the agony of impending death. She lived after this probably about five minutes. Previous to the attack she had been cheerful and free from any serious respiratory symptoms. The *autopsy* was performed forty-four hours after death. The body was well-nourished, milk in breasts, old striæ on abdomen, which was distended by the pregnant uterus. Face rather cyanosed. The lungs seemed larger than natural, were bright-red in colour, and engorged with frothy blood. The smaller branches of the pulmonary artery were filled with dark red cylinders of clot, which could be easily expressed. This was more marked in those vessels the size of a small quill, though by the aid of a lens the minuter arterial twigs were seen to be in the same condition, reminding one of the appearance of a lung injected from the pulmonary artery with lead chrome, or red wax. On opening the right side of the heart, the ventricle was found to be occupied by a large clot, which was divisible into two layers, coloured and uncoloured. The buffy coat was superior, and the clot was entangled among the columnæ carneæ, but not in any way incorporated with them. This coagulum "fined off" into the pulmonary artery, as far as the bifurcation of the great vessel, where it was in contact with, but not joined to, another clot, which extended into the smaller divisions of the pulmonary arteries. This latter clot was cylindrical, quite filling and staining the wall of the vessels, mottled on the surface, and of various colours and shades, being at one part dark-red or maroon coloured, at another pale and fibrinous like. Neither did it extend into all the divisions of the pulmonary artery with equal regularity, for some remained patent a little way, and on being traced up were found more or less completely blocked at intervals with friable masses of fibrinous clot, dull yellow or ochre coloured, here and there suffused with spots and blotches of dark blood colour. The artery and its branches were healthy, the valves were three in number, and free from disease. The right auricle, pulmonary veins, and left cavities of the heart, were empty. The left ventricle remained uncontracted. The blood in the innominate veins, inferior cava, iliac, and femoral veins, remained dark and fluid. The clusters of veins on the inner aspect of the leg contained dark red masses of clot, here and there slightly mottled on the surface. They were in no way adherent to the walls of the veins, which

seemed fairly normal in thickness and colour. The process, indeed, seemed rather the result of passive coagulation in dilated tortuous veins, than of any active inflammatory mischief in the veins themselves. The cardiac substance was healthy; there was no disease of the endocardium or the valves. The uterus reached about two inches above the umbilicus, and contained a seven months' foetus. The veins in the broad ligaments contained fluid blood. The kidneys weighed ten ounces, and were deeply congested. The spleen was soft, and of medium size. The liver weighed four pounds, and was of a deep red colour. The brain was not examined. *Remarks.*—Cases of sudden death due to clotting of the blood in the pulmonary arteries, though not unknown after delivery, are rare during pregnancy. In the later months of gestation the blood is hyperfibrinous, and there is a tendency to easy coagulation, but the more important causes—debility from a severe labour or hemorrhage, the pouring of the products of degeneration of tissue into the blood, the actual clotting in the large uterine sinuses—are not present. In the case under consideration, the usual symptoms of death from obstruction in the right heart were observable, and the interesting question arises as to how the coagulation commenced. It will be noticed that the first evidence of clotting was manifest in the dilated and varicose saphena vein, and there was no symptom of premonitory mischief in the chest, though this may have existed. From the character of the clots it is clear that the buff-coloured mottled masses found in the vessels could not have been formed in a few minutes. Rather one would say that they had been fashioned at least some days previous to death, and therefore the circulation through the lungs must have been more and more obstructed, until by incautious movement on the part of the patient, a still larger mass of fibrine was detached, and the block becoming complete, sudden death was the result, from the brain being deprived of its due supply of arterial blood. Cases are recorded which shew that blocking of part of the pulmonary arteries is not incompatible with life, or, indeed, with a fairly comfortable state of respiration, for the heart by its quickened action and increased force may pump sufficient blood through a small portion of lung, to satisfactorily carry out oxygenation of the blood, and regulate due supply. But when the last collateral floodgate becomes plugged, then universal obstruction ensues, and the important nervous centres being deprived of blood, rapid death follows. It is quite in accordance with this theory to suppose that in the present case the first clotting in the lungs may have been due to the washing away of a portion of fibrine from the veins of the lower limb, for this might have caused at first but slight symptoms, yet by combined thrombotic and embolic



processes blocking more and more of the arteries of the lung, extensive mischief would ensue. For, as has been shown, the larger pulmonary arteries bifurcate at an acute angle, and a portion of soft clot washed against their projecting surfaces separates into many portions, as a soft mass of weeds will break up when floated by a stream against the buttress of a bridge, and so multiplication of the first evil must ensue. The fact that a person may live though a considerable thrombosis of the pulmonary arteries exists, encourages us in the recollection that recovery is not impossible though signs of this dangerous condition are evident, and the case furnishes a forcible instance of the importance of maintaining absolute rest in cases of venous plugging, especially when associated with pregnancy or the puerperal state. (Mr. Marmaduke Shield, Curator of Museum, St. George's Hospital, Medical Times, Feb. 21, p. 247.)

**SACCULAR DILATATION OF URETHRA IN WOMEN.**—Mr. Lawson Tait describes in detail one case, and refers to three others which have occurred in his practice, of this very rare condition. The symptoms in all of the three cases were precisely alike. The patients were constantly troubled with an escape of foetid urine, not occurring during ordinary micturition, the urine passed voluntarily being always clear and sweet. A tumour resembling an ordinary cystic vaginocoele, but tender on pressure and apparently continuous with the neck of the bladder, was found on examination. Pressure upon the tumour at once caused a flow of foetid urine. Mr. Tait removed an elliptical portion of the cyst wall so as to completely open its cavity. Further details of the treatment and progress of the cases are given. (Mr. Lawson Tait, p. 399.)

**SEROUS PERIMETRITIS.**—At the Obstetrical Society, Dr. John Williams gave an account of three well marked cases, and a description of the appearances after death in one. Dr. Williams concluded that the disease was due to extension of inflammation from the uterus, that it commenced in the peritoneum in the neighbourhood of the ovaries, and extended along the brim of the pelvis, matting the intestines to the fundus of the uterus, and converting the pelvic cavity into a closed sac. Into that sac, serum was effused, which raised the uterus upwards and forwards, and depressed the posterior wall of the vagina, so as to protrude through the vulva in some cases. The effused serum became coagulated at the upper part, where adhesive peritonitis was present, and formed in some cases a considerable mass. This mass fixed the uterus, and was the hard swelling felt after tapping. Mr. Knowsley Thornton said: As to treatment, aspiration was inferior to free opening by a trocar, and maintenance of the opening so formed, with washing out of the cavity.

Nothing answered so well for this purpose as a Cock's trocar and cannula, with a Wells' retaining spring for the cannula. (British Med. Journal, June 27, p. 1293.)

**SIMS' SPECULUM.**—*How it ought to be Held.*—The nurse must stand at the patient's back, but much nearer the operator's end of the table than she is usually told to do. She must not grasp the speculum by the central part, but by the external blade, the fingers coming round the convex part and the thumb fitting naturally into the concavity at the bend. She must not be told to draw the perineum backwards and upwards, *i.e.*, towards the patient's head, but to pull backwards and slightly downwards away from the patient's head, steadily, and without the very slightest jerk. By traction in this direction the pelvic floor is opened up exactly in the way in which Dr. Hart has described that it is done in labour. This method of holding Sims' speculum and of opening up the pelvic floor was shown to me by Professor Skene, of Brooklyn, before I had read this explanation of how the perineum acts during parturition. (Dr. Skene Keith, p. 414.)

**SPONTANEOUS RUPTURE OF THE MEMBRANES DURING GESTATION.**  
—From the observation of 50 cases of spontaneous rupture of the membranes, occurring in 700 puerpera, Dr. Kemper arrives at the following conclusions:—The spontaneous rupture of the membranes at full term of gestation, and preceding the beginning of labour-pains, is an event of common occurrence, averaging about once in every fourteen labours. When the membranes are broken, as a rule, labour supervenes at once, or within the next four hours, but may be delayed several hours, days, or even weeks. When such an accident occurs, the duration of the labour is not necessarily prolonged, nor rendered more painful. The mortality of the mothers is not augmented, and the ratio of stillborn children, if at all, is so slightly increased as to amount to a minimum. The causes are not well defined. The repetition of the accident in certain women shows that with some a tendency is inherent. A possibility of atmospheric influences, especially a low temperature, as an exciting cause, is admissible. Smellie considered obesity a cause. My observations have not confirmed his statement. Cazeaux considered that such cases were coincident with a presentation of the vertex that is deeply engaged in the excavation. It is probable that the duration of labour is shorter in cases where the appearance of pains is delayed for some time after the membranes are ruptured. The proper plan of treatment, as given by Smellie, McClintock, Bard, Denman, and Dewees, and corroborated by my own experience, *is rest*, if necessary in a recumbent posture, *and patience*. All efforts to excite labour-pains are hurtful, meddlesome, and



mischievous. *Wait for pains, and treat the case on general principles.* Finally, that the fear of delay and danger in this class of cases, —the classical “dry labour,”—promulgated by our early obstetrical fathers, and endorsed by successive authors generally, is based on the merest spark of truth, and is one of those medical traditions that experience shows to be over-estimated and to a large degree apocryphal! (Dr. G. W. H. Kemper, of Munice, Ind., American Journal of Medical Sciences, April, p. 415.)

**STERILITY DUE TO CERVICAL FLEXION.**—*Operation for.*—Having drawn down the cervix, I removed from its posterior aspect, in the median line, a portion of mucous membrane, nearly an inch in length vertically and half an inch wide, and, having done this, stitched the upper and lower margins together; the effect of the procedure being to shorten the vaginal cervix on its posterior aspect, to draw the os uteri backwards, and thus straighten the vaginal cervix and increase its patency. When the stitches, three in number, were tightened, the vaginal cervix was made to look downwards, instead of upwards. I consider this a better procedure than amputation of the vaginal portion, because it leaves the os uteri in a natural state; and I think it preferable to Emmet's operation, because it leaves the cervical canal intact. The uterus, as a whole, is less mutilated by this procedure; and, presumably, its functions may be supposed to be better exercised when the cervical canal and the os uteri externum are preserved. It may be remarked that the use of the stem is less likely to be attended with benefit in these particular cases; for the vaginal portion is too long, and something must be done to shorten it, although the use of a stem might be useful, in order to further improve the patency of the cervical canal, after the vaginal portion has been shortened by the procedure above described. (Dr. Graily Hewitt, British Med. Journal, June 13, p. 1191.)

**THE UTERINE STEM PESSARY.**—*Mode of its Introduction.*—The introduction of the uterine stem is a simple matter. The cervix is exposed by the Sims's speculum, and held gently but firmly by a volsella forceps. The stem is placed upon a wire and is passed into the uterine cavity in the same manner as a sound. The flange is slid over the wire as a guide and carried up to the stem, and by a little manipulation passed upon the stem until it fits firmly against the shoulder of the stem, at *a*, Fig. 4. At times, difficulty is met in passing the flexed point of the uterine canal. In this case a sound with a proper curve is first introduced, and the uterus straightened and held in that position for a minute or two, and then as the sound is withdrawn pass in the stem, before the uterus can recoil into its flexed form. If the stem should not freely enter the uterus, use the sound a second time, and again try and pass the obstruction with the stem.

Remember that at no time is force to be used; if you were to lose your patience and the woman become tired, stop and try again some other day, rather than attempt to force the stem through the obstruction. I have never yet been obliged to resort to an anæsthetic in the manipulation I have just described; on the contrary I prefer to leave the patient alert to every sensation, and guide myself accordingly. If there is any pain after the introduction of the instrument, keep the patient warm in bed until it abates. At one time, I introduced the stem at my office, which I rarely do now; in fact, I do not believe that any form of intrauterine treatment is proper office work. I make a rule to do this at the patient's home, or in my private sanitarium. Vaginal irrigation should be carefully carried out during the time the patient is wearing the stem. Constipation should be prevented, as difficult defecation is a frequent cause of displacement of the instrument. When the stem is nicely adjusted and is well borne, I allow it to be retained for two or three months. I then remove it and observe the case through a menstrual period in order to form an idea of the extent to which the patient has been benefited. If necessary, the stem is replaced, or a version pessary is substituted for it. (Dr. Van de Warker, Syracuse, N.Y., p. 409.)

UTERINE FIBROIDS.—*Comparative Value of Oöphorectomy and Hysterectomy in.*—In September, 1882, I read a paper before the Boston meeting of the American Gynæcological Society, "On the Relative Value of Hysterectomy and of the Complete Removal of the Uterine Appendages, for the cure of Uterine Fibroids." From the results obtained by others, and from my own, I came to the conclusion that the removal of the appendages should, in all suitable cases, be preferred to the more formidable hysterectomy. At the Liverpool meeting of the British Medical Association in August, 1883, I read another paper on this subject: the year's interval having added to my personal experience six operations for the removal of uterine tumours, with one death, and seven successful removals of the appendages. I was then strongly in favour of the latter operation, and I am so still; but increasing experience and increasing boldness in dealing with uterine tumours by operation, have convinced me that, among the many things to be taken into consideration in deciding which operation is suitable for a given case, some can only be learned by actual sight and touch after the abdominal cavity is opened, and when the relative positions of the uterus, ovaries, tubes, and tumours are thus made absolutely certain. In undertaking to operate for a fibro-myoma, I therefore always tell the patient plainly that, though I believe the one or the other operation, as the case may be, will be most suitable for her, I cannot absolutely pledge myself as to which I shall perform till



I have opened the abdomen. I have now removed the appendages for the cure of fibro-myoma eighteen times, and all the patients have recovered from the operation. (Mr. J. Knowsley Thornton, p. 389, and Brit. Med. Journal, May 23, p. 1034.)

VAGINA.—*Sloughing of After Parturition*.—At the British Gynæcological Society, on April 22nd, 1885, Dr. Chalmers read a case of a primipara who was delivered by forceps, with only a slight rupture of the perineum. On the fourth day, there were signs of septicæmia; the vulva and vagina became gangrenous; there was broncho-pneumonia. Later, a rash, dusky red, closely resembling measles, appeared over the limbs and body. In spite of all these complications, the patient recovered. The points of interest were, first, the sloughing under so little pressure; secondly, the absence of pain except on the second day; thirdly, septic influence attacking three cavities of the body in turn; fourthly, the eruption and its cause; fifthly, the recovery of the patient under such grave and complicated conditions. In the sixth place, as evidence of the virulence of the septic products, he stated that the nurse had to go home with malaise and erysipelas of both legs. The medical man had an angry pustule on the wrist, and the second nurse suffered from a severe attack of diarrhœa; and, from having had some of the patient's liquid fæces on her hand, the tender skin between the fingers was blistered, and an itching of the skin of nearly the whole hand was set up, which lasted for several weeks. (Dr. Chalmers, British Med. Journal, May 9, p. 945.)



## PRACTICAL MEDICINE.

DISEASES AFFECTING THE SYSTEM GENERALLY.

### ART. 1.—ON ASIATIC CHOLERA : ITS PREVENTION AND TREATMENT.

By R. PRINGLE, M.D., Surgeon-Major, late Sanitary Department  
H.M.S. Bengal Army.

In presence of the appalling epidemic of cholera now raging in Spain—which during the past four days, that is, from July 19th to the 22nd, has attacked 9,347 persons, and proved fatal in 3,633 cases, while, in the preceding week, 11,000 cases were recorded, and 4,970 deaths—in the presence of an epidemic like this, not confined to a few populous cities like Naples, Marseilles, and Toulon, as it was in 1884, but extended over twelve populous provinces, the subject of preventive measures from a calamity such as has fallen on Spain is one of the most important matters which can be discussed before the Public Medicine Section of an Association such as the British Medical. In doing so I shall strive, as far as possible, to avoid all that relates to theories, and confine myself to facts; these being the result of the practical experience and personal observation of thirty years' service in India, during which time I have been personally connected, as sanitary officer of the district, with the greatest cholera outbreaks, or rather epidemics, of modern times, even in that home of cholera, namely, the one at Puri or Juggernaut, in the Bay of Bengal, in 1856, and the Khoomb, or great twelfth year festivals at Hurdwâr, on the Ganges, at the foot of the Himalayas, in 1867 and 1879.

*Preventive Measures as affecting the Locality.*—The measures usually had recourse to to prevent the cholera-influence in the persons of the subjects of the disease from entering a locality may be divided into two, namely, the effect of sanitary cordons, and quarantine. Disinfection of travellers and their baggage, etc., by fumigation and other means, is manifestly so futile, and, withal, sometimes so dangerous to persons in delicate health, that I need not take up time in alluding to it.

As regards sanitary cordons, whatever they may be in theory, they are useless in practice; and, though it is generally supposed that they are not allowed in India, I can speak from the experience of one of the largest military circles in that country, namely, the Meerut circle, in which Hurdwâr is situated, that they have been



in practice, more or less, for the past twenty years; and, as was to be expected, cannot be credited with any good results as regards preventing the disease from gaining admittance into a cantonment or city; since, even supposing the cholera-influence to be disseminated by human intercourse alone, nothing is more easy to evade, in an open country, with a venal population, than a sanitary cordon. Hundreds of poor pilgrims, in 1879, in the flight from Hurdwâr, to avoid the endless annoyances and petty impositions of these sanitary cordons, sold their jewellery to purchase railway tickets to convey them beyond the reach of these local oppressions; and all this, be it remembered, takes place where, if we are to accept the Government reports on the sanitary measures and precautions regarding cholera, sanitary cordons are unheard of, a practical proof that the reports of the Government of India on cholera must be accepted with caution and reserve.

A cowkeeper, at Mussoorie, evaded the cordon, and went to the plains for a cow, which he brought back with him; and, though only a few hours in the village, where cholera was present, he was seized with the disease on his return to Mussoorie, and died; but the disease, as noted hereafter, never spread. Isolation or quarantine on land is equally useless in practice.

As regards preventive measures in the matter of communication by road or rail, when the panic-stricken population are flying from a "cholerised" locality, I would recommend the careful inspection of the travellers and passengers at the chief halting and changing stations, with special arrangements for the comfortable and judicious treatment of all true and suspicious cases of cholera, and the detachment, or, at all events, the strict closure of all carriages from which cholera cases have been taken out, till they can be thoroughly disinfected and cleansed.

Quarantine, however, with reference to sea-ports, is quite a different preventive measure; and it would be as unreasonable, if nothing more serious, to admit a ship into harbour with cases of true cholera on board, and then permit passengers and crew to land and disperse, as it would be to detain the ship in an open roadstead for a period of time out of all proportion to that which may be called the period of choleraic incubation.

In the absence of any evidence, such as that supplied in the train of symptoms witnessed in the operation of small-pox inoculation, or cow-pox inoculation, or vaccination, it is impossible at present to fix upon any precise period for the incubation of cholera. The experiments on the subject of cholera-inoculation in Spain being still *sub judice*, I refrain from any allusion to them.

The first step, therefore, in an inquiry like this, is to find a locality where cholera is unknown, either as an endemic or as an epidemic disease. In proof of the non-endemic qualification of this place, it will be absolutely necessary to prove that every case

of cholera met with has been imported, either in the stage of incubation, or in that of characteristic cholera. The non-epidemic qualification of this locality must rest on an equally sound basis, viz., the fact that not even one isolated case of the disease has occurred, traceable to the cholera-influence, resulting from these imported cases. Such a place having been found, the next step in the inquiry will be to ascertain if it be possible to fix the limit within which the external symptoms of the disease would manifest themselves, supposing them not to be present at the time of arrival in this locality from a "cholerised" district. The civil sanatorium of Mussooree, in the Himalayas, in the north-west provinces of India, and the adjoining military convalescent depôt of Landour, furnish instances of localities which, to my certain knowledge, during a continuous observation of twenty years, have never furnished one single case of either endemic or epidemic cholera. Every case of the disease, whether among Europeans or natives, met with at Mussooree or Landour—and they have been neither few nor slight—which I have attended during these twenty years, or which have been reported to me as sanitary officer of the district, has been imported; and not one single case of the disease has occurred among the residents of either of these stations, apart (as in the fatal case of the Mussooree cowkeeper alluded to) from their exposing themselves to the cholera-influence in the plains, if only for a few hours, followed by a rapid return to Mussooree. This locality having been thus found, and the cases traced to exposure to the cholera-influence in the plains below, the question can now be asked, What was the limit, if any, after which an individual, who, on his arrival in these localities, was free from any external symptoms of the disease, might be considered to have passed unaffected with the disease during his journey through the "cholerised" districts to Mussooree or Landour? During the first ten years of my observations, I was under the impression that 72 hours was the limit; but the experience of another ten years has satisfied me that this limit was never sufficiently approximated to be laid down as such, and that 48 hours would cover the possibility of the disease lying dormant in the system. Most of the patients, however, who, though free from the disease on arrival, suffered from it afterwards, did so within thirty hours of this event; but in these cases it is possible that some portion of the stage of incubation may have been passed on the journey to Mussooree, as, except in the exact period fixed by practical inoculation, it is impossible to lay down any precise time as that from which to date the stage of incubation.

*Treatment.*—As regards the treatment: nursing is the sheet-anchor in cholera, and should be persevered with in the stage of collapse, till death has, without doubt, claimed its victim. I saw a soldier who had been put into the stretcher with the pick-



axe and spade, to be buried, when the column halted on its march from Saharanpur to Chuckrata, in 1879, and who was found sitting up when his comrades came to bury him. I knew a Bengal civilian, now serving the Government, who heard the door shut, and the order given for his coffin; and dead-houses could, I fear, tell more sad tales than the one I know. Let everything connected with the treatment of cholera be done quietly, brightly, and courageously, remembering that nothing gives the poor sufferer courage like the exhibition of it.

As to medicinal treatment, I have tried all and every kind, even the celebrated treatment by the injection of tincture of quassia, as recommended by Honingberger, which he offered to sell to the Government for £10,000, and which, I believe, would have been paid had it succeeded; but it, like most other modes of treatment, only exhibited our ignorance, both of the disease and its treatment. After seeing the sad results of the alcoholic stimulant treatment, and of that by opium, I have come to the conclusion that the action of alcohol on the circulation in the brain interferes with the natural power of rallying from the stage of collapse, and that narcotics, if absorbed at all, only tend to deepen and to lengthen into the sleep of death the stage of collapse. Carbonate of ammonia in full and continuous doses, with sulphuric and nitric ether in camphor mixture, administered in the way alcoholic stimulants are given, combined with hot frictions and sinapisms, to restore, if possible, the capillary circulation, have proved, in my experience and practice, the most successful line of treatment, and one which cannot be charged with interfering with the natural efforts towards recovery; for in India I have seen, on the roadsides leading to Juggernaut, numbers who have recovered, and have started to continue their journey, without either treatment or care of any kind whatever, after having been left by their companions as dead, or to die. Iced drinks, in my opinion, should never be given, for the body is cold enough from the specific action of the cholera-influence on the system; and when thirst, a constant symptom, is complained of, water at the temperature of the air should be given; and, for the violent retching and ineffectual attempts to vomit, copious draughts of tepid water. All the patients who have recovered, when questioned, alluded gratefully to the quenching of the thirst, and it seems hard to suppose that this is not an indication of the natural line of treatment.

The measure of measures when the disease is present in a locality, is to allay the fear caused by the too generally accepted belief that cholera, like small-pox, is both infectious and contagious. Let this belief be once thoroughly shaken, and we shall then have the most powerful agent possible to aid in nursing the cases of the disease. The only possible source of danger to nurses or attendants arises from the risk of over-work, and consequent exhaustion, and

the possibility of thus suffering from diarrhoea or dysentery; in which state of health they should neither nurse nor attend on cases of cholera, as I am convinced, from what I have seen and heard, that, if nurses or attendants be seized with the disease while carrying on their duties, it will be found in most cases to be due to this; and this circumstance should be judiciously communicated to all whose duties require them to attend on cases of cholera.

From all my experience, I am quite satisfied that cholera is neither contagious nor infectious in the sense in which these terms are applied to diseases such as small-pox and other eruptive fevers generally; and if the dejecta of a cholera-patient contained a germ as readily admissible into the system, and followed as certainly by the characteristic symptoms met with in the case of the inserted small-pox virus, when the person has not been protected by a previous attack of small-pox or cow-pox, then, if I may judge from the experience acquired by the universality of small-pox where inoculation or vaccination is unknown, India, or most certainly Bengal, would have been repeatedly decimated by the cholera-epidemics in which I have been during the past thirty years. Wherein, therefore, it may be asked, lies this difference? In the hope of allaying alarm, the only theory in which I shall indulge shall be one to try to point out this difference. In the case of small-pox virus it recognises no local interference, so to speak, that I know of, in the way of its dissemination. Bring an unprotected individual within the influence of the infection or contagion, and the person will suffer from small-pox, with a certainty that must be seen in India to be believed. The exposure may take place anywhere, on the shores of the Bay of Bengal, or, as I know, 16,000 feet above sea-level in the Himalayas, and the effect will be the same. With cholera it is different, as I shall try to show. In small-pox, all that is necessary is susceptibility, with the presence of the variola virus; neither the season of the year, nor the unsanitary condition of the locality, nor yet any atmospheric conditions, seem to have anything to do with the attack, or to be at all necessary.

With the cholera-influence three conditions seem to be necessary for the development of a case of characteristic Asiatic cholera: 1, the individual susceptibility at the time; 2, the effects of local unsanitary conditions, including overcrowding; 3, the concurrence of certain atmospheric conditions. Without the first two, the third is innocuous; without the third, the first two are equally so; and without the first, as in my own case, till June, 1867, the last two, throughout the epidemics of Juggernaut in 1856, and Hurdwâr in April, 1867, were innocuous.

With reference to the disposal of the cholera-discharges and soiled clothes, until it can be incontestably shown, by proofs other than those derived from experiments on the lower animals, some of



whom (dogs) have lived for weeks on cholera-corpses, as I have daily seen at Juggernaut, that the dejecta of cholera are innocuous under all and any conditions of human life, in the present mystery which hangs over the disease, all discharges and soiled clothes should be subjected, as a preventive measure of great importance, to such treatment as will prevent their possibly becoming hereafter sources of cholera-influence. That the dejecta of cholera-patients are the vehicles which contain the cholera-influence, in whatever form it may assume, I have not a doubt; and, even supposing the human system may not be the soil in which this influence is multiplied and subsequently disseminated, yet I am not in the least prepared to say that these dejecta, or even the blood of a cholera-patient, are innocuous as means of spreading the disease, simply because of the negative results of the experiments with these substances in the lower animals.—*British Medical Journal*, Aug. 29, 1885, p. 377.

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## 2.—THE SALICYL TREATMENT OF ACUTE RHEUMATISM.

By J. S. BRISTOWE, M.D., Physician to St. Thomas's Hospital.

The influence of the salicyl-compounds over the febrile temperature in acute rheumatism is certainly remarkable. In the great majority of cases, where large doses (say 20 grains of salicylic acid or of salicylate of soda) are administered at frequent intervals (say every two hours), so that the patient becomes speedily saturated with the drug, the temperature falls to the normal in the course of a day or two, and, provided the medicine be continued in sufficient doses, remains normal. No doubt there are exceptions (real or apparent) to this rule. The salicylates have certainly not the same influence over the temperature of gonorrhœal rheumatism that they have over that of the idiopathic disease. In some cases where a single joint becomes severely inflamed, or inflamed out of proportion to other joints, a high temperature persists in spite of the salicylate treatment. And, again, in cases attended with serious cardiac or other visceral complications, the salicylates as antipyretics fail in their action.

It has been suggested, and maintained, that, although salicyl-compounds reduce the febrile temperature of acute rheumatism, they have but little effect over the rheumatic process, and that the inflammation of the joints is not actually reduced by it, nor the progress of the disease arrested. That, however, is not the general experience of practical men, and it is certainly not my experience. In the great majority of cases, according to my observation, the influence of the remedy over the condition of the joints is quite as marvellous as its influence over the temperature. As might, *a priori* have been supposed, however, the restoration of the joints to health

takes a longer time than the reduction of temperature. As a general rule, the pains remit as the temperature falls; but swelling and effusion, and other results of inflammation, subside more slowly, and very often do not wholly disappear until after the lapse of several additional days. But here, again, exceptions are by no means unfrequent. Occasional cases are met with in which, for no apparent reason, the rheumatic inflammation seems only too successfully to resist the assaults of the drug. In cases, already referred to, in which the temperature is little, if at all, influenced by the salicylates: cases in which intense inflammation attacks one joint alone, or disproportionately to other joints; cases of rheumatoid affections associated with, or resulting from, certain specific diseases; and cases of serious visceral complication; again, the salicylates are, so far as I know, unsuccessful.

In considering the action of salicylate of soda and related drugs on acute rheumatism, it is impossible not to speculate, first, on the nature of acute rheumatism, and, second, on the mode in which the medicines act upon the disease. I must acknowledge that the more I think on the matter, the more I feel compelled to adopt that view of the nature of acute rheumatism which Dr. MacLagan has steadily held from the period when it first impelled him to seek in willow-bark an antidote against the disease, and which he maintains with singular ability in his work on *Rheumatism*, published three or four years ago—namely, that it is a disease of a malarious character dependent on the introduction into the body, and on the breeding therein, of living organisms. He adduces many arguments in favour of this view; such, for example, as that acute rheumatism is mainly a disease of low-lying and damp regions; that it tends to recur (as ague does) in those who have once had it; that, notwithstanding the presence of high fever and great suffering, the joint-affections are rarely intense, and rarely or never lead to serious mischief. But I forget whether he knew, when he wrote his book, of the recent tendency among physiologists to regard all spreading or metastatic inflammations as the consequence of the action of septic organisms, or that there are many such reasons for looking upon acute lobar pneumonia as a septic disease. He had certainly no reason to suspect that tubercle is almost certainly determined by the presence of a special kind of bacillus. These latter considerations furnish strong analogical grounds, in addition, in favour of his views.

How it is that salicyl-compounds cure acute rheumatism I cannot say. I presume, however, it is much in the same way that quinine cures ague, and mercury syphilis. In the latter cases, it is commonly believed that the specific drugs act directly on the virus, and that is the most probable explanation. It is conceivable, however, that in all three cases the specific drug simply destroys or renders inert the poison which the living virus sets free or manu-



factures; and that, consequently, the disease is rather neutralised than cured. But this view is not more applicable to the relation between rheumatism and the salicyl-compounds, than it is to the relation between the other named diseases and the drugs that exercise specific influence over them.—*British Medical Journal*, Aug. 22, 1885, p. 333.

### 3.—ON THE TREATMENT OF HYPERPYREXIA IN RHEUMATIC FEVER.

By J. MAGEE FINNY, M.D. Univ. Dubl., Clinical Physician to Sir Patrick Dun's Hospital, Dublin.

But few words are necessary on the subject of treatment in cases of rheumatism complicated by hyperpyrexia, with or without nervous disturbance; not because the subject is one of little moment, but because the general consensus of opinion is in the direction of reducing the excessive heat in as short a time, and in as efficient a manner, as possible, although there may, however, be a difference of opinion as to the best method of attaining this end.

Antipyretics may act directly or indirectly, and, for the sake of description, may be classified into those which reduce the temperature in accordance with physical or physiological laws.

To the first class belong the direct and rapid cooling of the body by abstraction of its heat by contact, through the skin and mucous membranes, with surroundings of a lower temperature. To the latter class we refer medicinal remedies (quinine, Warburg's tincture, salicin and the salicylic compounds, aconite, and the ordinary diaphoretic and diuretic drugs of every-day use)—a long list, to which kairin has been recently added.

I have had no experience of kairin, but from what I have read of its effects I shall not expect very much from its employment.

I am aware of the very high opinion in which some practitioners hold salicin or the salicylic compounds as antipyretics in acute rheumatism, but I cannot unqualifyingly join their ranks. I have employed this class of drugs, and particularly salicin, as my routine treatment in that disease for many years, and in the very great majority of cases relief to pain and lowering of fever have followed its employment for a few hours or days; but, on the other hand, I have failed, in some instances, either to reduce temperature or to relieve pain by it when given in full doses.

The effect of quinine on the hyperpyrexia of acute rheumatism is but slight, if indeed it will in any way check a temperature which is rising. It has quite failed to do good in my experience, even where, in one case, I employed four hourly doses of 5 grains each, and then one full dose of 20 grains. Indeed, from the analogy of its use in intermittent fever, no good can be expected of it if given while the fever is rising, however useful it is as a specific when given in the apyrexial intermission of that disease,

or as a great aid to lowering the temperature which has commenced to fall.

The prompt and early application of cold to the surface is, therefore, the most valuable mode of treatment of the hyperpyrexia in acute rheumatism, as it is in the similar condition of insolation or heat apoplexy. The chances of its efficacy are greater the earlier it is had recourse to. The temperature cannot safely be allowed to rise above  $105^{\circ}$ .

Of the various methods of thus cooling the body by direct abstraction of its heat, the cold bath, cold affusions, irrigation by Leiter's tubes, and the application of iced cold cloths or sheets, are open to selection. In private practice, and where numerous assistants, necessary for the immersion of an adult in acute rheumatism in a bath, cannot be had, I have no hesitation in saying that the latter method (that by cold towels applied as I have described) is the one best suited to meet the requirements of the case. It is easily done, requires no skill, and is free from the objection and the risk of frequent handling and lifting of the patient, which is inseparable from the use of the cold bath; the strength of the patient is thereby economised, and by its readiness of application the exact amount of good required can be more accurately gauged than by immersion in the cold bath.

While thus I advocate the employment of this severe remedy to meet an extreme necessity, I must not be understood to urge it as an antidote to the disease which called for it, and I by no means ignore the depressing effect it has upon the patient's strength. I desire, therefore, to lay special stress upon the right importance which should be accorded to this treatment. It may be the means of saving life, but it is only an adjunct to the general treatment of the patient. It is directed to meet but one complication of the disease, and it is a weapon of offence we must be ready to lay aside and take again as the necessity for it may arise.—*Dublin Med. Journal*, Feb. 1885, p. 123.

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#### 4.—ON ANTIPYRIN AND ITS EFFECTS.

By WILLIAM H. DRAPER, M.D., Physician to the New York Hospital.

It is a striking fact that, while the progress of science adds little to our knowledge of the essential nature of fever, it continues from time to time to enlarge our resources for its control. One of the latest contributions to the means of subduing the heat as well as the other symptoms of fever is antipyrin. This substance, which has been brought to our notice within the past year, and which has already been the subject of extensive physiological and clinical experiment, was discovered by Knorr, of Munich. It is one of the many derivatives of coal-tar, and most of us probably will be



none the wiser for the assurance that it is a dimethyloxychinizine. It is a crystalline, grayish-white powder, with a faint tarry odor and a slightly bitter taste, soluble in alcohol and in double its weight of water.

Antipyrin was first used in the treatment of fever by Filehne, of Erlangen. He found that it reduced a high temperature  $40^{\circ}\text{C}$ . ( $104^{\circ}\text{F}$ .) and upward to  $38^{\circ}\text{C}$ . ( $100.4^{\circ}\text{F}$ .) without secondary effects, with the exception of the occasional occurrence of sweating and vomiting. The reduction took place by gradual defervescence in the course of two or three hours from the administration of the first dose, and usually lasted from seven to nine hours, sometimes for a longer period, the temperature returning to its former height without the occurrence of a chill, as is usual after the antipyresis produced by kairine. He found, also, that the pulse followed approximately the temperature curve. Filehne's method of administering antipyrin is by distributing five or six grammes over a period of two hours in doses of two grammes repeated at intervals of an hour.

Guttman confirmed Filehne's observations in twenty-seven cases of high temperature. He found that doses of half a gramme, given in six consecutive hours, effected but slight reduction, and only for a short time. Guttman noticed occasional sweats in defervescence.

My own experience with this drug was obtained during my late service in the New York Hospital, and mainly in the treatment of 20 cases of typhoid fever. Of the 20 cases, 17 were males and 3 females. Three were between 15 and 20 years of age, fourteen between 20 and 30, and three between 30 and 35. Five died and fifteen recovered, showing a mortality of 25 per cent. Of the five who died, the ages were 18, 22, 25, 28, and 30. One died on the fifteenth day of the disease, one on the twenty-fifth, one on the thirty-seventh, one on the fifty-fifth, and in one the duration of the disease could not be ascertained.

The highest temperature recorded in the fatal cases was as follows:  $107.6^{\circ}$  on the twenty-fourth day;  $105^{\circ}$  on the twenty-ninth day;  $105.6^{\circ}$  on the fifth day;  $105.6^{\circ}$  on the fifty-third day;  $104.4^{\circ}$  on the twentieth day.

The antipyretic treatment adopted in all of these cases was the application of cold, either by sponging or baths, or the administration of antipyrin. The method of administering the antipyrin was that recommended by Prof. Filehne. The maximum dose was 75 grains, given in three portions of 30, 30, and 15 grains, at intervals of an hour. The pretty uniform effect of this dose was in accordance with the statement of Filehne, to reduce a temperature of  $104^{\circ}$  or  $105^{\circ}$  to  $100^{\circ}$ , or even to the normal, by gradual defervescence within three or four hours from the administration of the first dose. The depression continued from four to nine hours, when the temperature would begin to rise without

the chill which occurs after the use of kairine, usually attaining the maximum again in the course of twelve hours. It was rarely necessary to use more than 150 grains in the twenty-four hours to maintain the average of the temperature from one to two degrees below what might reasonably have been anticipated without its use. The pulse, as a rule, followed approximately the temperature curve, and the general effect upon the nervous symptoms was such as is usually observed in antipyresis from any febrifuge. In all the cases the antipyrin depressed the temperature. In one case it failed to lower the temperature when given by the stomach, but did so when used hypodermically. In another case its administration occasionally failed to diminish the fever.

The effect on the pulse was generally to diminish the frequency and increase the strength of the pulse. No marked depression of the heart's action was noted. One of the most marked and most uniform effects observed was the moistening of the tongue. Sweating, more or less profuse, was caused in six of the cases. Vomiting was provoked by the drug, occasionally, in six cases. The nervous symptoms were, as a rule, favourably affected by the antipyrin. In only one instance did it seem to depress the spirits. Generally it quieted delirium, cleared the intelligence, diminished deafness, and allayed restlessness and subsultus. It was noticeable that the patients looked less listless and seemed more comfortable when under the influence of the drug. In six cases the administration of the antipyrin caused an erythematous rash resembling measles, and in one instance a macular eruption presenting a purpurial appearance. These eruptions caused but little irritation, and faded in the course of a few days without discontinuing the remedy. The urine was carefully examined throughout the course of all the cases, and presented no other changes than those usually observed where the disease is complicated with a parenchymatous nephritis. No change of color was observed such as has been noticed after the administration of kairine.

A summary of a table, showing the number of days during which each patient was under the influence of antipyrin, the total number of doses, and the amount of the drug in grammes, gives the following results:—Of the five patients who died, one took 10 grm. in ten doses during a period of five days. A second took 27 grm. in seven doses during a period of six days. A third took 34 grm. in twenty-one doses during a period of eight days. A fourth took 48 grm. in ten doses during a period of seven days, and the fifth took 321 grm. in sixty-five doses during a period of thirty days. Of those who recovered, the shortest period during which the drug was given was one day, the number of doses two, and the amount 3 grm.

I have made no systematic observations with antipyrin in other diseases than typhoid fever, but I have used it in pneumonia,



scarlatina, in intermittent fever, and in tuberculosis. It has invariably reduced the temperature, and while it has not seemed to alter the course of the disease it has relieved the discomfort due to the fever and evidently contributed to the well-being of the patient.—*New York Medical Journal*, April 18, 1885, p. 429.

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### 5.—ON THE TREATMENT OF SCARLET FEVER.

By WILLIAM WHITLA, M.D., Physician to the Belfast Royal Hospital.

One difficulty about a consideration of the relative values of various lines of treatment in scarlatina—and it is a great difficulty—arises from the worthlessness of statistics regarding treatment. A disease depending so much upon individual susceptibility, and the extraordinary variations in the severity of epidemics, can hardly afford any conclusive proof of the value of any given lines of treatment, unless sifted in a way which is hardly practicable. Added to this is the next great difficulty that we can gain little from the experience of our German or French brethren, since unquestionably with them the disease assumes, speaking generally, a milder type, especially in its endemic cases.

The treatment of scarlatina at once divides itself, from the first moment a case comes under the care of the physician, into two distinct heads—(1) The treatment of the disease in the patient; and (2) the *preventive* treatment, directed to those surrounding him.

In the majority of cases, the latter is the most important. Ever mindful that the mildest case may disseminate, even in the early stages, a virus which gives rise in some to a rapidly fatal disease, the physician should always insist upon immediate and rigid isolation, disinfection of all articles, foods, excretions, and individuals leaving the sick room; thorough ventilation, and the removal of everything which can harbour fomites. Early anointing of the patient's body with oil or lard, to which some disinfectant is added, or the rigorous cleansing of his epidermis by sponging with tepid water, to which Condy's fluid has been added, are essential to prevent the spread of the disease, especially in the early desquamative stages.

As regards the treatment of the disease in the patient himself, we may affirm that there is no evidence of the power of any remedy or line of treatment to really cut short the disease; at the same time, few better opportunities are afforded to the scientific physician for the exercise of his varied talents than are presented in the treatment of a severe case of scarlatina.

If a case should chance to present itself in the incubative stage with the *preliminary* sore throat, the physician will ask himself, "Can I cut short the disease by destroying the virus at its point of entrance into the system?" It will do no harm to try; I believe

the result will be about as brilliant as that obtained in cauterising a chancre (the cases are exactly alike); and though some affirm they have cured the disease in this way, it always appears to me that, as some of the poison *must* have got into the open lymphatic channels of the tonsils, it is like locking carefully the stable door after the steed has departed.

In dealing with the average mild cases of scarlatina, one would do well to remember the very significant dictum of a wise physician, that "scarlatina is dangerous only through the officiousness of the physician."

The line of treatment for simple cases which is now by almost universal consent adopted, is the *symptomatic*; doubtless, this must be the correct one. With our present knowledge we know that as yet we have *not* discovered a drug which will cut short the disease by destroying the poison germs in the blood, without killing the patient. I believe I am not saying too much when I state that the results of recent therapeutic research all point to the happy conclusion that the day is not very far off when the physician will be enabled to control the growth of the parasites, which cause the symptoms of these acute contagious diseases, with as much ease as he now controls the paroxysms of ague or destroys the parasitic skin disorders.

With some sort of idea that quinine, salicylates, sulpho-carbolates, sulphites, carbolic acid, and a host of other remedies, act in this way, they have been tried, but with varying grades of success. No one can deny that they often effect *great* good, and in some cases quinine and the sulpho-carbolate of soda have saved life—they certainly reduce temperature for a time, though there is no evidence that they cut short the disease. Francis lauds the inhalation of ozone, and Bennet reports that by the administration of a tablespoonful of fresh yeast, often repeated through the day, he has never lost a case of malignant scarlet fever.

Considerations of vital interest hang round the question of treating *uræmia* in scarlet fever. It has been my fortune, in a somewhat limited experience, to see several cases of uræmic convulsions; all have yielded in quite an unexpected way to *prompt, energetic, and fearless* purging, accompanied by thoroughly carried out hot-blanket bathing—one drop of croton oil, with the rapid envelopment of the patient's body in a blanket wrung out of water which the attendant's hands cannot bear without considerable pain and discomfort. I think I can recall about a dozen cases, all successfully treated in this way. Mustard was in nearly all cases added to the bath, and the patient was enclosed till the perspiration was most copious—for at least half-an-hour, sometimes for two hours or more. Elaterium, so highly spoken of in emergencies like these, has so often failed me that I shall be slow to try it again.—*Dublin Journal of Med. Science, March, 1885, p. 187.*



## 6.—ON SO-CALLED SURGICAL SCARLET FEVER.

By HERBERT W. PAGE, M.A., F.R.C.S., Surgeon to St. Mary's Hospital, London.

[Though little doubt now exists in the minds of most surgeons as to the true scarlatinal nature of the infection in cases of red-rash with pyrexia accompanying wounds, the following case and remarks may with advantage be borne in mind.]

“Ought an operation to be performed on a patient whom we know to have been recently exposed to the contagium of scarlet fever?” is a question which cannot very often have presented itself to a surgeon; but it occurred to myself not long ago in the following circumstances.

On Dec. 13th, 1884, I admitted into St. Mary's Hospital a patient with suppurating glands and old sinuses in the right groin, the result of over-exertion, and perhaps general ill-health. On Dec. 13th, the sinuses were freely laid open under an anæsthetic, the operation being a somewhat severe one of its kind. On the 18th the temperature rose, and a red rash appeared on the chest and abdomen. This was followed by sore throat and general extension of the redness, and no doubt was entertained that the patient had scarlet fever. He passed through a mild course of this disease and desquamated over the whole body; but there was little or no arrest in the healing of his wound, and he was discharged from the hospital in eight weeks. He was an intelligent well-educated man, aged twenty-eight, formerly an officer in the Navy, and had been taken into the hospital for special reasons. He was quite unaware of having been exposed to recent contagion, but was sure that he had had scarlet fever twice before, the last time seven years ago.

There attended on this patient a night-nurse and a day-nurse, both lady probationers in the hospital. On Dec. 27th, the night-nurse, aged thirty-five, began with scarlet fever, and passed through a typical yet very mild attack. On Jan. 7th the day-nurse, E. P. G——, aged forty-seven, called attention to the fact that her left breast had been for some time very painful and was growing rapidly in size. I was asked to see her, and learned that for the last fifteen years she had had a small painless lump in the breast, that it had begun to increase in size nine months ago, and that for the last two months its growth had been much more rapid, with a considerable amount of pain. The breast was found enormously enlarged, and to be the seat of a tumour which, both from the history and the feel, was obviously a cystic adeno-sarcoma. I advised removal as soon as possible—that, at any rate, it should not be delayed beyond a week or ten days. On the following day her friends took her to see Sir James Paget, who further advised that she should leave the hospital for a few days before operation, so as to lessen the risks of her contracting scarlet fever, to infection from

which she had been continuously exposed for the last three weeks. She had never had scarlet fever before. Accordingly, she left the hospital at once, and returned on the morning of Jan. 14th, on which day I had the advantage of talking over the case with Sir James Paget, who agreed in thinking that it was right, in the circumstances of the breast disease, to operate, although the chances of the patient developing scarlet fever were very considerable. On the afternoon of Jan. 14th I removed the breast under full anti-septic precautions, Listerian carbolic spray and gauze. The wound healed by first intention; and from that moment to her discharge from the hospital, on Feb. 9th, her temperature never rose above the normal. She did not contract scarlet fever.

Such is the bare statement of the facts, and it will be acknowledged, I think, that a question of unusual difficulty was submitted to the surgeon before operation. The fortunate issue of the case gives at any rate one answer to the question, that an operation may be performed with safety on a patient who has been recently exposed to the contagium of scarlet fever. Operations have doubtless been frequently performed without ill results on persons who have been so subjected to infection, although that fact was unknown both to themselves and the operators. I question, however, if an operation other than one of real urgency ought to be undertaken knowingly in like circumstances, and I must own that for some days after the operation on E. P. G.—my anxiety was not small that she would show evidences of the fever. The necessity and urgency of the operation had to be weighed against the risks of developing scarlet fever, and had any facts been at hand to tell that the patient would certainly show symptoms of this fever after operation, that there was, in fact, no possible escape for her from such a consequence, then perhaps it would have been right to postpone the operation longer, urgent though it was. But who could say for how long? There were no such facts to guide me, and I thought it justifiable to take the chance and do the operation.

The history of these three patients clearly shows how different is the susceptibility of different individuals to the poison of scarlet fever. The man who had had scarlet fever twice before gets a third attack within four days of an operation; from him one nurse soon catches the disease, and the other nurse, who was subjected to no less risks of infection and who had not had scarlet fever before, not only does not acquire it, but even undergoes a serious operation within a week of the time when she had been nursing him. It appears, therefore, that an operation, or the state of depression induced thereby, has not that power which has been attributed to it of permitting the development of scarlet fever in a patient who has been exposed to it, unless the patient has also a certain measure of susceptibility to the disease. Nor do I know how this is to be gauged, unless it be from the age of the patient and the absence of any pre-



vious history of scarlet fever. It is improbable that any one can have reached middle life without having been at some time exposed to the risks of infection, and in the system of every individual there must be something to determine whether poison or system shall prevail, whether the poison which has entered in shall run its course, or be deprived of its potency and cause no symptoms. That different persons and different families show all degrees of susceptibility is of course well known, and the history of these three cases seems to point to individual susceptibility as having an all-important share in allowing the development of scarlet fever after operation. How widely different, for example, must have been the susceptibility in the man and in his nurse! This conclusion seems, however, to teach that an operation ought not to be undertaken in such circumstances as have been recorded unless there be some good reason for believing that the patient's susceptibility is only small. The question which begins this paper can, as has been said, very rarely present itself to a surgeon, and I can only suggest that when it occurs very careful inquiry should be made into the history of the patient and his family, that his age be noted, and the probabilities of his exposure to contagion, and his escape from its dangers during his previous life, be fully considered. And yet his previous escape may render him more liable to an attack now, and an operation may be the one thing needful to make him fall a victim to the fever. Not necessarily so, as the case in this paper shows; but there must be a risk, and it should be fairly put before the patient and his friends. Risk unavoidable; attack by no means inevitable; hope of escape well-grounded or the reverse, according to the age and previous history. These are the considerations which must be put before them, and which must be balanced against the measure of the urgency for the operation. How difficult it may be to arrive at a right conclusion is self-evident.

In a letter to me on the issue of this case Sir James Paget writes: "I wish we could have more of these negative facts; we have nothing to weigh against the positive evidences of the bringing out of previous infection." It is with the object of recording a negative fact of much interest and importance that I venture to publish this note.—*Lancet*, May 16, 1885, p. 887.

#### 7.—ON PERIOSTITIS IN TYPHOID FEVER.

By J. O. AFFLECK, M.D., Senior Assistant Physician to the Royal Infirmary, Edinburgh.

As this morbid condition has not hitherto received much notice by writers on fever, it is desirable that cases of the kind which may have been observed should be put upon record, with the view of aiding in determining the place as regards frequency and importance of this lesion among the complications or results of typhoid. It is

with this object that I venture to cite three instances of this affection which came under my observation during the past year in the typhoid wards of the Fever Hospital of the Edinburgh Royal Infirmary. These three cases of periostitis occurred in a total of 117 cases of typhoid fever which were under treatment in 1884. Two of them occurred in young men, aged 21, one of whom was admitted—in the third week of the fever—with periostitis commencing in the right tibia. This produced a recrudescence of the fever, and prolonged the case for about four weeks after his admission, but he made a good recovery. The other, who was admitted at the commencement of the fever, showed symptoms of marked periostitis in the right humerus in the third week, and this was followed by a similar condition of the right tibia. Convalescence in this patient was slow, and after the periostitis had apparently departed, it reappeared in the right humerus, and an abscess formed, which was subsequently opened in the surgical wards by Mr. Joseph Bell. The patient ultimately completely recovered.

The third case was that of a girl, aged nine, who was admitted with a very severe attack of typhoid fever, which reduced her to such a degree of exhaustion, that for a time it seemed scarcely possible she could survive. In the fifth week, and just as the temperature had begun to subside, she was attacked with periostitis of the right humerus, which set up fever again, and caused her intense suffering. Contrary to the expectation of every one about her, she rallied and recovered. No abscess formed, but the painful swelling of the shaft of the humerus continued for full six weeks from its first appearance.

The local treatment in these cases consisted in hot opium-fomentations during the continuance of the acute pain, and subsequently the application of iodine.

Sir James Paget, in his interesting notice of "Some of the Sequels of Typhoid Fever" (St. Bartholomew's Hospital Reports, vol. xii., 1876), enumerates periostitis, with or without necrosis, among them, and appears to regard this condition as probably a sequela proper of the fever. He states that it occurs at an advanced stage of the convalescence, when the temperature has become normal, and the patient is regarded as free from his fever, is moving about, and becoming stouter and stronger. This is doubtless the case in the majority of instances (I have myself seen several); and the surgeon is better able, at least as regards hospital patients, to furnish accurate information upon this point, seeing that the cases will naturally fall to him rather than to the physician who previously had them under his care. Sir James Paget further says: "I do not remember to have seen or heard of a case in which it has occurred during the continuity of the fever." Nevertheless, that periostitis may occur at the height of the fever, or at least when



convalescence has no more than begun, is evident from such instances as those three above narrated; and in this view, it may be regarded as a complication, no less than a sequel, of typhoid fever.

As to causation, it is probable that this affection depends upon the lowered nutrition of the osseous tissues, as the result of a severe or prolonged attack of enteric fever, most of the cases in which it has been noticed appearing to have been of this character. In this fever pre-eminently, the nutritive changes are manifold and profound, and depend partly upon the pyrexia, but especially upon the great weakening of the assimilative function connected with the morbid alterations in the mucous membrane of the intestines, which may make itself felt, even after all febrile action has passed away.

It is not, however, to discuss the pathology of periostitis in typhoid fever, but simply to record the facts of its occurrence under the conditions now stated, that this brief notice is written. This lesion undoubtedly deserves a more prominent position among the results of typhoid fever than it has yet been accorded. In a not inconsiderable experience of this fever, it has occurred to me to see periostitis far oftener than "swelled leg," about which much more has been written.—*Brit. Med. Journal*, May 9, 1885, p. 939.

#### 8.—ON ACTINOMYCOSIS IN MAN.

By the EDITOR OF THE LANCET.

Some incidental remarks made at a recent meeting of the Pathological Society revealed the existence of the first genuine instance of actinomycosis in this country. The case occurred, we believe, in the practice of Dr. Harley at St. Thomas's Hospital, the post-mortem examination being made by Dr. Sharkey, and the microscopical examination by Mr. S. G. Shattock, curator of the museum. As the disease in man has only been recognised within the past decade, and as no cases have hitherto been recorded in this country, it is not surprising that but few members of the profession in England should be acquainted with it. A valuable clinical contribution to our knowledge of the affection in man has recently appeared from the pen of Dr. J. Israel. In 1882 Professor Ponfick published an almost exhaustive monograph on the disease, in which most of the facts then known were embodied. From questions which have been addressed to us, we believe that a brief account of the elemental features of the affection will be welcomed by the majority of the profession, to whom the malady is unknown.

The affection is presumably one which is dependent on the presence and activity of a micro-organism. The micro-parasite is a member of the fungoid class, and consists chiefly of a mycelium which divides in a dichotomous fashion, and gives rise by its spread from a centre to a radiate appearance, whence its name—actino-

myces—is derived. The circumferential ends of the mycelial sprouts have a flask-shaped swelling. The little masses of felted mycelium may be recognised by the naked eye as sulphur-yellow bodies of about the size of a hemp-seed. The disease which this parasite is supposed to cause may develop in many parts of the body. The most common site appears to be the jaw and parts bounding the mouth. The affection in animals has long been known in this situation under various names, and has been regarded as a form of scrofula and as a new growth. It is believed that the parasite gains an entrance through the medium of a carious tooth or some wound of the gum leading to the jaw-bone. There is but little to be said of the morbid anatomy of the disease. A swelling forms in the jaw, and gradually increases in size. This tumour in its earliest stages may be punctured without any matter being let out, although it generally has an elastic and semi-fluctuating consistence. A section made into a tumour in the early stage of its existence shows a reddish-white area sprinkled in places with gold-coloured granules. Later on abscesses and fistulæ form, in the discharge from which the sulphur-coloured bodies may be seen. Broadly speaking, the tissue of the morbid new growth, which must be regarded as inflammatory rather than sarcomatous, has very much the characters of ordinary granulation tissue. Actinomycosis may occur primarily in the respiratory tract proper, and Dr. Israel makes this class of cases his second group. He narrates a case in which the disease was localised in the bronchial mucous membrane. The patient was a girl aged fifteen, who suffered from the signs and symptoms of chronic bronchitis, with fetid expectoration, in which the actinomyces were readily discovered. Another case of a man, aged twenty, is given, in which the primary localisation of the disease was in the parenchyma of the lung; it was afterwards propagated to the pleura and to the prævertebral tissues. Some of the cases have many of the clinical characters of empyema with discharging sinuses, and in such cases a complex system of fistulæ not unfrequently undermines the morbid tissues. The structures in the posterior mediastinum and prævertebral regions are often affected, and the bodies of the vertebræ may become carious. Dr. Israel makes his third group of cases include those in which the disease begins primarily in the intestinal canal. In some of the cases the foci of the disease are widely disseminated. The liver, spleen, muscles of the back, and muscular substance of the heart, have been shown on post-mortem examination to have numerous centres of actinomycosis. Large abscess cavities may form behind the peritoneum as well as behind the pleura, and these may communicate by many perforations of the diaphragm. The symptoms necessarily depend chiefly on the localisations of the disease as well as on its rate of progress, and present therefore extremely varied clinical pictures.



Dr. Israel's work contains an account of thirty-eight cases, which number includes all that have hitherto been recorded.—*Lancet*, May 2, 1885, p. 808.

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#### DISEASES OF THE NERVOUS SYSTEM.

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### 9.—CLINICAL LECTURE ON A CASE OF DISSEMINATED CEREBRO-SPINAL SCLEROSIS.

By DYCE DUCKWORTH, M.D., F.R.C.P., Physician to St. Bartholomew's Hospital.

[The case here narrated by Dr. Duckworth is at once instructive and interesting as an example of the asymmetrical and sometimes more or less equivocal manifestations in the early stages of "sclerose en plaque."]

I will tell this man to walk across the theatre, and ask you to notice his gait. If you look at him first as he stands at rest, you will not observe anything remarkable about him. You see a young man in seeming good health, well nourished, and with complete control over his equilibrium. I now ask him to close his eyes. He stands erect, and without any tremor or instability. And now, as he walks, you notice a peculiarity in the action of his right leg. This limb moves stiffly, and there is over-action of it. It is lifted higher off the ground than the other, and is clumsy in movement. We say there is some spastic action in it. I now give him this glass of water to take in his right hand. At once, you see, a violent spasmodic action occurs, vigorous tremulation, so great that he nearly empties all the water before he has well seized the glass. If he next attempts to raise the vessel to his lips the movements become more and more exaggerated, so that all the water is spilt and the empty glass rattles against his teeth. I remove the vessel from his hand, and all the spasm ceases forthwith. As he stands quietly once more, you notice that the right arm remains tranquil and free from tremor. I try his power of grasp in each hand, and find a marked weakness in the right one, although he is a right-handed man. I now lay bare his forearms and compare the condition of his muscles. You observe no signs of wasting; the muscles are well developed and of good and equal tone on both sides. On examining his face, you see that his muscles of expression are stable and free from tremor, his lips firm, and his eye-balls quite steady. His pupils are unequal, certainly, but that is due to the action of atropine in one of them, used to allow examination of the retina of the right eye. No squint; no facial palsy. Testing his sensory functions, we find no abnormal state; all is as it should be. On inquiry as to any subjective sensorial sensations, he assures us all is natural in each of the four extremities. To curtail our further examination, I may add that there is nothing more to be detected by any physical methods we can employ, save that the knee-reflexes are exaggerated, mark-

edly on the right side, while no ankle-clonus can be elicited. We have, then, a seemingly healthy and vigorous young man, whose only troubles are a clumsy limping gait, due to disorderly action of his right leg, and inability to employ his right hand and arm because of powerful tremulation and disorderly spasm, which come on the instant he directs his will into this extremity; and this is all. Before he leaves the theatre I ask him to repeat a sentence after me. You notice that he speaks clearly and fluently—with a good Wiltshire accent to be sure, but without any hesitation or difficulty; and yet, again, on protruding his tongue, you find no noteworthy tremor or peculiarity in it. Let us now take up the history of this case; it is very brief.

G. R.—, aged twenty-one, a groom, was sent up to us by a former pupil of the hospital, and admitted on Feb. 14th. He states that nine months ago trembling movements began in his right arm, which prevented him from following his occupation. Later on the right leg became affected, so that he could not walk far on account of the weakness in it. Inquiry into his past history revealed no important illness. He had never had rheumatism, and there was no known history of this or of gout in his family. He had never had chorea, although his present ailment was at first believed to be of this nature. There was no neurotic history in his family, no indication of any previous paralytic attack or hemiplegia, no injury of any kind, and no history of fits. His duties entailed exposure to all kinds of weather, but to no extraordinary exposure. Previous to admission, he had been treated, we learned, with arsenic, belladonna, mineral water bathing at Bath, &c., all without avail.

You have already noted that the patient appears a healthy and well-nourished man, and that so long as he makes no voluntary efforts with the limbs of the right side of his body there is no indication of disease about him. I show you a specimen of his attempt to write his name. After violent efforts to control the right hand he made this unintelligible series of scrawls. With the left hand he has learned to write fairly legibly, but slowly and with difficulty, still without any spasm or tremor. He is awkward in setting his right forefinger on any point; thus he makes bad shots at his nose when he tries to touch the end of it, and hardly succeeds in getting near it. Dr. Steavenson has given us a report on the electrical reactions of the muscles of the affected limbs, and he states that they all react normally to both continuous and interrupted currents, and that there is no loss of electro-sensibility. We have seen the exaggerated reflexes at the knees, especially on the affected side; and you may note an increase in the supinator-reflex of the right arm. No fibrillary muscular contractions. On examining the thorax, nothing abnormal is found. The heart-sounds are healthy and sufficiently loud. The urine is natural and the sphincters act perfectly. Special senses not perverted. No vertigo. Knows



where his hands and feet are. Retinæ perfectly healthy and optic discs well-defined. No nystagmus; pupils react naturally; no strabismus. No history of syphilis, and no signs of either inherited or acquired disease of this character. No tenderness on percussing the cranium at any point. In trying to follow with his right toes a circle drawn on the floor is very clumsy and erratic. He can jump, though with exertion of more force than is necessary for the distance traversed. The difficulty with the right leg is best seen when he tries to run.

We find, on the whole, more negative than positive signs in this man, and yet we have very definite symptoms before us. What is the lesion here, and where is it? What is the diagnosis and what the prognosis, and the best treatment of it? I mentioned that chorea had been at first suspected in the case. Chorea is sometimes one-sided, and often so, for a time in many instances. You would not or you should not long be mistaken as to this. You know that choreic movements are incessant except during sleep, and not only elicited by effort, although they are aggravated by voluntary efforts. And you would not expect to meet with a case of one-sided chorea lasting continuously for nine months. We may, therefore, put that aside. You think, perhaps, of another nervous disorder characterised by tremors and paralysis agitans; the shaking palsy (Parkinson's disease) suggests itself to you. Is this the malady before us? Here is Parkinson's own definition, written in 1817; observe if it tallies with our case: "Involuntary tremulous motion with lessened muscular power in parts not in action, and even when supported; with a propensity to bend the trunk forwards and to pass from a walking to a running pace, the senses and intellect being uninjured." This definition will not apply here. The rule is for the tremor to be persistent and constant in shaking palsy, and rather to cease or moderate when action is induced. The contrary is the case here. Action at once induces tremor. The age of this patient is against his being the subject of shaking palsy, this disorder being very rare before forty years of age are reached. Have we here to deal with a case of so-called post-hemiplegic chorea? I think not, because we have no history and no signs of a past attack of hemiplegia, and the character of this man's tremors are not those of the disorder I have alluded to. To mention mercurial tremors is sufficient. These are symmetrical, and affect the head, and the signs of mercurialism are always obvious. We can also exclude hysterical tremors and malingering.

We are brought, at last, to consider this case, then, as one of a class known as insular or disseminated cerebro-spinal sclerosis, or Charcot's disease, as it has been called. It is a remarkable example, certainly, because the disorder is, at present,—note, I say *at present*,—*hemiplegic in character, and also manifestly in an early stage*. We do not often see such cases. This is our diagnosis: sclerotic patches

situated in the left half of the brain, possibly in corpus striatum or crus, and possibly in some portion of the medulla spinalis. I should not like to pronounce with greater certainty anything more than this at present, though I might exclude the inferior frontal convolution and parts around the fissure of Sylvius, with some other regions. We may exclude scrofulous and syphilitic disease in the case, and we are in face of the characteristic lesions which are usually found in these cases, and for which I refer you to your studies in morbid histology. The age of our patient is just that at which this malady declares itself. It is equally common in each sex, and very rare after forty. Exposure to cold has been a commonly assigned cause. In this disease no muscular *wasting* occurs, although loss of muscular *power* is found, and no electrical changes arise. Paresis precedes the tremors, and the reverse is the case in shaking palsy. The reflexes are exaggerated. I should not omit to point out to you that many symptoms are wanting in this patient to complete the picture of a typical case. Such a one we had fifteen months ago in John ward. For example, one looks for nystagmus, and for certain symptoms referable to disorder in the medulla oblongata in most of these cases. I never met before with the exact conditions you see in this man; but, still, I have hardly any hesitation in making my diagnosis.

As to prognosis. This is certainly grave. I surmise that we have so far only early symptoms before us, and that the disease will make sad progress in time. We may fear the onset of paresis and tremors in the sound limbs, and the implication of speech with what are termed bulbar symptoms. The sclerotic process may spread and new patches of it occur in other portions of the cerebro-spinal system, thus setting up new symptoms. The course of the malady is slow, and may occupy from five to ten years. Deceptive periods of improvement may occur from time to time. Too often the disease goes on from bad to worse till the patient is rendered helpless and bedridden, the limbs becoming rigid and paralytic, dementia supervening. Can we do nothing to arrest this terrible process? Must it go on to the bitter end? Alas! the resources of our art are, we must honestly avow, powerless as yet to avert the progress of this terrible malady. Physicians have been very assiduous in elaborating the differential diagnosis of nervous diseases of late years, but in respect to therapeutics we have as yet scored few triumphs. The outlook is bad, and we might almost despair of rendering help. We shall never do this, I hope, but rather strive the harder to find means of arresting this untoward process. No one drug is pre-eminently indicated. I am giving this man mercury, and mean to bring him fully under its influence. He takes three grains of blue pill each night. Not that I am trying to eradicate any syphilitic taint, for, in truth, we know of none in the case. But we know that mercury is a powerful drug and able to modify



nutritional force very materially. We shall do our patient no harm with it. It may be that some of these obscure perversions of growth are evolutionary forms of syphilis transmitted from infected ancestry, and so mercury, fully tried, may chance to be of special use. We know, at any rate, that in the peculiar form of systematic sclerosis of the posterior spinal columns known as *tabes dorsalis*—locomotor ataxia—syphilis plays a very prominent part, to the extent, indeed, of 80 per cent., or more, of all cases. Not that the lesion is itself directly syphilitic or gummatous, but that syphilis, as syphilis, seems to predispose to the particular form of sclerotic change in the cord which sets up the disease we know as *tabes dorsalis*. We are also maintaining the nutrition of this man's nervous system by cod-liver oil and a good diet. Nitrate of silver has been found of use in early stages of this disease. But for some time to come I should prefer to use mercury and iodide of potassium and carefully watch their effects, and I shall bring the results and the further history of this remarkable case before you on a subsequent occasion.—*Lancet*, May 16, 1885, p. 879.

#### 10.—ON HYSTERIA.

By JOHN SYER BRISTOWE, M.D., LL.D., F.R.S., Physician to St. Thomas's Hospital, London.

[Dr. Bristowe concludes the Cavendish Lecture with the following exposition of his views upon hysteria as a nosological entity, and its relations to the other members of the neurotic family. The lecture abounds in clinical examples of many of the rarer hysterical conditions.]

Typical hysteria occurs, or generally appears for the first time, in persons who, from sex, age, or the conditions in which they live, are specially emotional; it is attended with marked emotional disturbance, sometimes with intellectual disturbance, and it is characterised by a liability to convulsive attacks, and to various affections of the sensory and motor systems, which are sometimes of general distribution, sometimes hemiplegic, sometimes paraplegic, sometimes limited to particular nerves or groups of nerves. The affection, moreover, is various in its incidence, and liable to sudden onset, sudden change, sudden recovery—circumstances which prove its independence of organic nervous disease.

But hysteria may occur with many of its characteristic symptoms highly aggravated, with many of its characteristic symptoms in complete abeyance, or indicated haply by only one or two trivial incidents. The emotional and intellectual disturbance may pass into genuine madness, as in so-called "hysterical mania." The convulsive attacks may resemble, if they do not merge in, those of epilepsy, as in cases of so-called "hystero-epilepsy." On the other hand, there may not be, and there may never have been, definite or

discoverable emotional disturbance or tendency, never any convulsive attacks, never hemiplegia or paraplegia, and, indeed, the manifestations of the disease may be limited, so far as I know, to an attack of neuralgia, to painfulness and tenderness of a particular organ, to paralysis or spasm of a single muscle or a group of muscles, or to some functional disorder of a single viscus.

In other words, so-called "hysteria" may, as it seems to me, consist in excess, diminution, or modification of all or any of the nervous functions, whether of the brain, the ganglia at the base of the brain, the medulla, the cord, the sensory or motor nerves, or the sympathetic system. And hence, by specially implicating particular parts, it may, in its symptoms, resemble, more or less accurately, a large number of organic diseases of the nervous system developed in the same parts. And hence also, and on similar grounds, it may resemble, more or less accurately, many other recognised functional disorders of the nervous system, which are regarded as definite diseases, and have received distinctive names, if, indeed, under such circumstances, it does not become identical with them.

No doubt an emotional element preponderates in cases generally regarded as hysterical; and, for the most part, definite hysterical symptoms are the consequence either of overwhelming emotions excited in healthy minds, or of lesser emotional influences acting on minds already in a state of unstable equilibrium. But it must not be forgotten that emotional disturbance characterises, or complicates, a large number of intra-cranial disorders which are not of hysterical origin. It is of the very essence of insanity; in chorea, in megrim, and in epilepsy, especially in the first, the emotions are generally implicated; the presence of syphilitic tumours, and generally disease in the neighbourhood of the fourth ventricle, evoke a tendency to laugh and cry, and to become erotic; and the lowness of spirits and proneness to tears which follow hemorrhage into the brain are well known. Emotional affection is, therefore, no monopoly of hysteria. And not only so; for while we might naturally expect emotional symptoms to preponderate when the other hysterical symptoms are such as depend on cerebral disturbance, we might as naturally expect these to be less and less pronounced in proportion as the hysterical phenomena become more and more limited to remote and less important parts of the nervous organism. And so no doubt it often is.

The view which I am inclined to hold with respect to hysteria and other functional nervous diseases, and to their mutual relationships, is as follows. There are many functional diseases of the nervous system, among which may be included insanity in many of its forms, epilepsy in its different varieties, chorea, megrim, neuralgia, and hysteria. These are all characterised by groups of symptoms referable to excitement, depression, or aberration of the



nervous functions, and mainly of those of the nervous centres. They are severally distinguished clinically by the association of definite groups of symptoms; determined either by the particular part of the nervous system affected, by the special kind of affection which takes place therein, or by the order and mutual relation of events. And we regard them as specific diseases, because experience teaches us that such groups of symptoms are so commonly observed under particular conditions as to show that specific causes must underlie them and determine their concurrence. But the causes of the different affections are for the most part closely related to one another, if not identical; the individual symptoms, which, by their modes of aggregation, constitute the several diseases as we know them, are common more or less to all of them; many cases occur in which it is difficult, if not impossible to determine satisfactorily in which category they should be placed; and indeed, as it seems to me, there is no substantial line of demarcation between the diseases.

If this view be correct, the terms insanity, epilepsy, hysteria, &c., would still imply well-marked, and for the most part permanent, varieties of functional nervous diseases; but the recognition of intermediate types, or the failure to form a definite diagnosis in every case, could not be taken to imply ignorance; and it would follow that many of the limited functional disturbances of which several of my cases furnish examples have little or no claim to be called hysterical (an adjective which is usually, and perhaps conveniently, applied to them), unless the meaning of the word hysteria be so far extended as to include all functional affections for which no other name has yet been invented.

In conclusion, I may venture to say, the more extensive my experience of nervous diseases has become, the more I have learnt to recognise the following facts: that many grave nervous disorders which, from their mode of onset, their symptoms, and their progress, would seem to imply the presence of organic disease, present post mortem no visible pathological change, that many such disorders, progressive and threatening a fatal issue, ultimately recover perfectly, that limited or localised nervous phenomena, paralytic or spasmodic, anæsthetic or neuralgic, come and go without obvious cause; and the more I have been brought to believe that functional nervous disorders capable of cure simulate the most serious as well as the most trivial cases of organic nervous disease. It may be admitted that emotional persons, and persons of marked hysterical tendencies, are more than others liable to suffer from the affections here referred to; but some of the most remarkable examples I have met with have been in patients who, apart from their particular malady, have presented no sign or symptom whatever of the hysterical condition.—*Lancet*, June 20, 1885, p. 1116.

## 11.—ON THE TREATMENT OF MANIACAL EXCITEMENT.

By J. A. CAMPBELL, M.D., F.R.S.Ed., Superintendent of the Counties Asylum, Carlisle.

[Dr. Campbell divides cases of mania into eight classes. We omit his descriptions and preliminary remarks, which are interesting and practical, and pass on to his recommendations as to treatment.]

1. In the *insanity of masturbation*, I have used careful feeding, blood-restorers, out-door exercise, sleeping under supervision, in some cases circumcision, the morning shower-bath, and, if a sedative was really required, bromide of potassium, on account of its anaphrodisiac qualities. A large proportion of this class adhere to their habits, drift into dementia, and die of phthisis.

2. *Puerperal mania*. In the ten years ending 1884, forty cases, occurring within a few days of confinement, and exhibiting acute excitement, came under my care. All except four recovered—90 per cent. Of the four who did not recover, two remain in the asylum; two died, one while away convalescent on a month's trial, the other from phthisis, which she had in a far advanced stage before confinement. I have found that by careful feeding, tonic treatment, and attention to the general health, with out-door exercise whenever the patient can bear it, the excitement speedily disappears, and the tendency of the disease is to recovery. I have never seen a patient die during an attack of puerperal mania, except from previously existing disease, or an acute disease occurring during the course of the attack.

3. In the recent cases we call *acute mania*, I do not enter on those cases of very short duration which we term ephemeral, which only last a few hours or a night, and where the recovery is as sudden and complete as the invasion was unlooked for and unheralded by any known train of symptoms. I take the class of case we all recognise and see a large proportion of. I do not believe that at the stage excitement has reached when the patient comes under asylum treatment we can at once cut short the attack; though I do not see why, at an earlier stage, before the brain congestion has reached the point where an explosion of excitement takes place, treatment which would divert nerve action to other parts of the body, produce muscular action tending to exhaustion and predisposing to sleep, with suitable feeding and sleep-compelling medicine, should not entirely avert an attack of excitement. I believe treatment can shorten an attack of excitement in many cases. I am certain, also, that I have seen cases run a long course of excitement uninfluenced by such treatment as I could use, without feeling it might have an evil influence on recovery. I believe extreme purgation, the free use of tartar emetic, and the constant use of opium in large doses, will subdue excitement, at least for the time. I have seen cases treated in



this way. I do not use such treatment, as I am convinced it retards—probably prevents—recovery. During the two years ending 1884 I admitted fifty-six patients of this class, twenty-eight of each sex. The average duration of excitement was fourteen days: in the males thirteen, and in the females sixteen days. Of this number two males remained excited for a month, and one for two months; while four females ran a long course of excitement, extending to five, six, eight, and ten weeks. These cases were specially treated with out-door exercise, and were carefully fed; kept out as long as they could stand exercise or the weather would allow. Sedatives were used merely to render the patients manageable in fourteen cases. Sleep-producers were given in six, and only where sleep did not in a night or two follow from the exercise. The subsidence of the excitement was carefully noted from the time at which the patient could be treated in an ordinary ward or sent to work, and was calm in demeanour and action. I know the great difficulty there is in estimating mental states, but I think all recognise acute mania, and know pretty well the state in which a patient is who is trusted without a special attendant to inhabit a well-furnished and decorated ward. During the period of excitement one, sometimes two, attendants were devoted to each patient. I most distinctly hold that acutely excited patients should be treated separately, away from other patients; and I am now certain that persistent muscular action in the open air is the safest, quickest, most effective, and most natural means of promoting recovery from the state known to us as acute mania. I of course include suitable and frequent feeding, the use of tonics and stimulants, and the ordinary warm bath. Were more time at my disposal, I could show that a course of acute excitement could be run, under judicious treatment, with very little loss of body weight and without utterly excessive feeding.

4. In *insanity from drink*, the excitement need not be of long duration. A considerable number of such cases come under my care, and I find a good purgative, plenty of liquid food, copious libations of cold water, and a few days spent in the open air, to be all that is required as treatment: loss of sleep for a night is not of the least consequence.

5. In cases of *periodic mania* which run a given course, where excitement gradually increases till it reaches a climax and then gradually subsides, I have of late years only occasionally had to give continuous sedatives to render the patient manageable, or hypnotics to enforce sleep for the patient's sake and that of others. Thorough continuous out-door exercise is the proper treatment for such cases. Latterly I have dieted several of this class on milk, vegetables, and farinaceous food, and I think with good result. We know certain diets in certain constitutions produce irritability, discomfort, and the converse.

6. In *epileptic insanity*, the influence of continued treatment by bromide of potassium in preventing excitement and reducing the number of fits has been so long proved, that I should think the treatment is made use of in most asylums, or should be. Dr. Macphail, in his valuable essay on the blood of the insane, found that the blood of epileptics, treated daily with ninety grains of this bromide for periods of over two, ten, and fifteen years, had not been deteriorated by the prolonged use of this drug. I have, however, noticed that epileptics who have been long under this treatment are liable to have congestion of the bases and posterior portions of their lungs; this condition seldom passes further than congestion. Until I recognised the state and its cause, I frequently feared epileptics were liable to double pneumonia. After a succession of fits, epileptics should be allowed to lie in bed, and during the period of epileptic excitement no sentimental opinion should prevent their seclusion; for the excitement in epileptic insanity differs from that in other forms—it is more easily acted on by outward causes, it subsides more quickly in solitude, and its characters render it more dangerous to the sufferer and those around him.

7. *General Paralysis*. Few cases are more difficult to deal with during their asylum life, none more liable to accident; most of the grave accidents in asylums befall this class of patients. Aggressive habits, without power to make good their threats and actions, are a source of danger from fellow-patients; abusive words, filthy habits, and sudden attacks have often been, though they should not, a provocative of bad treatment from those paid to take care of them. During the period of excitement which in almost every case occurs in the course of this disease, greater attention is needed than in other forms of excitement. More impulsive actions, more utterly hazardous and unreasoning attempts at doing impossible feats, are perpetrated by general paralytics actuated by their delusions of power and grandeur, than we find during the excitement of other diseases. Realising the fatal issue of this disease, less compunction need be felt in keeping the patient under sedative influence during an acute paroxysm. During the five years ending 1884, I admitted forty general paralytics, and during that time thirty-six died without having sustained any grave injury during their asylum life. I must say I feel a source of danger past when patients of this class lose the power of walking, and I do not regret when such patients become bedridden. I probably differ from many in thinking the habit of propping up weak general paralytics in wonderfully made chairs is not for their good or comfort; it is said to prevent bedsores, but patients at this stage should be kept clean in bed. With 547 patients, 40 of whom are bedridden while I write this, there is not a bed sore in the Carlisle Asylum.



8. In *senile insanity* I sum up the treatment in a sentence. Nursing, feeding, warmth, the judicious use of malt and spirituous liquids, and an occasional hypnotic. I use chloral with wine. Many public asylums have too few artificially heated single rooms, and night-nursing has not till lately been well enough attended to. Pneumonia and bronchitis, the result of a night's restlessness and exposure, frequently complicate such cases, and no doubt have ended many. A treatise could be written on any of the subjects I have touched on; but, as I have to keep within limits, I conclude with some remarks on out-door exercise and treatment by sedatives and hypnotics.

*Out-door exercise.*—I believe in this we have a natural remedial agent which in the majority of recent cases will subdue excitement and produce sleep, and at the same time re-establish the normal functions of different organs in the body, which too often are in abeyance during the stages of an attack of excitement. Maniacal excitement in chronic patients may be called into and kept in existence by injudicious asylum treatment. I have seen an asylum in which the female chronic element was for several years notably excited, when broken windows in the wards and black eyes among the patients were common, where noise in the daytime was incessant, and even night was made hideous by patients raving and hammering at their shutters, and where all attempts at making the airing-court into a flower-garden had failed, owing to the destructiveness of the patients, and this in spite of the free use of many sedatives. By separate treatment of the excited by exercise and employment, I have seen this changed, and a quietude by day and night scarcely credible take its place.

*Sedative treatment.*—I have gone carefully over my records, and my experience is that I give less sedative treatment than I did at one time, that I have to give fewer sleeping-draughts, that my patients do at least as well as they did, and that the asylum, as a whole, is quieter than it used to be. I think that if a patient is continuously treated by sedatives, and kept so under their influence as to keep quiet during an attack of acute excitement, such a case tends to run a longer course than if the excitement were allowed to expend itself. I have noted periodic cases treated with and without sedatives, and during several periods of excitement. I believe most sleep-producers given at night for any length of time produce an irritable mental state, and frequently stomachic discomfort. I am satisfied, however, that even extreme treatment by bromide of potassium, if it stop short of poisoning, produces no permanent bad effect, physically or mentally. I have been limited in my use of sedative drugs lately, principally having used bromide of potassium with tincture of hyoscyamus, and chloral with wine or spirits as an hypnotic. I have used counter-irritation to the head on several occasions without result. My experience of

the use of hot baths at high temperatures in acute excitement has not been great, but it has made me question whether the result was worth the risk. Had the results of my practice not been favourable, I should probably not have been so limited in my modes of treatment.—*Lancet*, August 8, 1885, p. 241.

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## 12.—ON A CASE OF LANDRY'S PARALYSIS.

By W. E. BUCK, M.A., M.D.Cantab., Physician to the Leicester Infirmary.

I venture to publish the following scanty notes of a case which I believe to be one of acute ascending paralysis, as first described by Landry in 1869. I desire to direct attention to it as a disease which is by no means easy to diagnose, and which sometimes is rapidly fatal. This paralysis has not, till recently, been noticed in the larger text-books on medicine, and very little is known about its etiology, and absolutely nothing about its pathology. Dr. Bristowe says that no morbid changes have been discovered which can account for the symptoms, and that in many cases the cord has been found apparently in quite a healthy state. These statements are confirmed by most other writers on the subject.

"Dec. 3rd.—Miss R——, aged twenty, seamstress, says she has been feeling poorly for three weeks, and got her feet wet on Dec. 1st. She complains of a feeling of pins and needles, and want of power in the hands and feet. She walks lame, and cannot hold a cup or thread a needle. There is no swelling, redness, or tenderness. She says she does not feel ill.—4th: The patient developed a clicking in the throat last night; she had a good night, but cannot raise herself in bed nor stand this morning. Temperature normal. I was called to see her this evening, and went at 7.45. I found her much altered in appearance; complexion waxy, but not altogether pallid; a tinge of blueness round the lips. She was propped up high in bed. There was a continued rattling of mucus in the trachea, and an inability to speak loudly; there was also a feeling of choking and difficulty in swallowing, although she could swallow small quantities at a time. Bowels open several times. Pulse feeble, and feeling as if it might soon cease. At 9.30 she died without a struggle."

These notes were kindly given to me by Dr. Cox-Hippisley, Miss R——'s medical attendant. When he called me in to see her about an hour before her death she was propped up in bed and answered my questions rationally. She could not move her legs or her fingers, but could move her arms slightly. There was no ankle clonus, but I did not test for other reflexes. Her breathing was feeble and shallow, with a slight rattling of mucus in the trachea and bronchi. There were no other physical signs. Heart sounds normal, but feeble. No trouble as regarded



bladder or rectum. Tongue clean; pupils dilated. Temperature normal; pulse normal, but feeble. She died apparently from some pressure or interference with the nuclei of the pneumogastric nerves—in fact, from bulbar paralysis.

I obtained permission to examine the body, and made the necropsy about forty hours after death. The body was exceedingly well nourished and well formed. Heart, lungs, stomach, and liver normal. The kidneys had the capsules thickened and were slightly contracted. The spinal cord was removed and hardened for microscopical examination, but nothing abnormal could be detected. This disease is mainly characterised by negatives in regard both to diagnosis and pathology. It is generally fatal, and may be of very short duration. In this case the patient did her work to within three days of her death, and even went to the theatre on the third evening before she died. The symptoms were in accordance with those usually described, except in one particular—viz., that she did not notice the loss of power first in the lower extremities and then gradually ascending. Dr. Bristowe, however, remarks, in the fifth edition of his “Theory and Practice of Medicine,” that in some rare cases the paralysis takes a descending course, beginning above and involving the lower extremities last. This disease is not at all common, and the literature relating to it is so recent and scanty that I fancy it is not at all well known to the general profession; for these reasons I have thus briefly described this case, in the hope that more attention may be devoted to it.—*Lancet*, July 4, 1885, p. 12.

### 13.—ON WRITER’S CRAMP.

By R. PATTERSON ROBINS, M.D., Assistant Demonstrator of Clinical Medicine in the University of Pennsylvania.

The terms *writers’ cramp* and *scriveners’ palsy* are good if applied only to penmen, but as the over-movements which are characteristic of the disease have been noticed also in artists, violinists, and pianists, smiths, milkmaids, tailors, and seemstresses, and even in telegraph operators, the names cannot be regarded as sufficiently accurate and comprehensive.

Two theories have been suggested to account for these over-movements: (1) that the disease is of centric origin; and (2) that the spasms are caused by the paralysis of certain muscles, and the consequent strong contraction of the antagonizing muscles. Duchenne, Althaus, and Solly have written quite copiously in support of the first theory. Duchenne says that these spasms are due to a lesion of some point of the nervous centres, “because (a) the disease is uninfluenced by localized faradization, and (b) because the left hand in cases of writer’s cramp is as liable to suffer (should it be used for writing) as was the right one.” Mr. Solly

gives it as his opinion that the lesion is to be found in the spinal cord, and that the disease consists of a granular disintegration of the cervical portion of the cord; whilst Dr. Reynolds considers the whole trouble to be due to "perverted nutrition of the parts themselves."

On the other hand, Dr. Zuradelli is strongly of the opinion that these over-movements "are true spasms, but are due to paralysis of one or the other muscles used in writing, in consequence of which the antagonizing muscles get the mastery and occasion a spurious cramp." In these views he is supported by the treatises of Geigel, Haupt, and Meyer. Zuradelli discusses very elaborately the various acts necessary in writing, the muscles employed, and most consistently calls these spasms *irritable weaknesses*. He finds in the affected muscles a diminution in tonicity and electric irritability and an intense feeling of fatigue after employment. Mr. Solly, in criticising this theory, says, "It is not a simple paralysis of muscular power which we have to deal with. The patient can call all his muscles into action; but he cannot bring them into such harmonious action as to be able to write."

Finally, Fritz advances the hypothesis that "in writers' spasm there is a reflex spasm proceeding from the sensory cutaneous or sensory muscle nerves." I think it probable that, whilst this reflex spasm existed in the case or cases under his observations, there was a coincident centric disease as well.

As to the more specific location of the lesion in the central nervous system, it will be found that most of the writers who hold the first theory are agreed in locating it in the cervical portion of the cord. Erb, however, will not even commit himself to this; he says: "In the present state of our knowledge we are justified in placing the seat of the cause of the typical forms of writers' spasm in the central nervous system, although we are not in a position to locate it with precision. Whether the trophic disturbance is to be sought for in the gray substance of the cervical portion of the spinal cord, or in the cerebral peduncles, or, lastly, in the gray substance of the brain, can only be determined by future investigation."

The disease is not apt to occur in early life, being rarely seen in individuals under thirty years of age. I have, however, seen a form of over-movements in writing occurring in a young lady not over three-and-twenty; but in her case the disease was not apparently due to overstrain. As far as I can ascertain, none of the various authors have regarded it as possible that there should exist an hereditary tendency to this neurosis.

The first symptom which will be noticed by the patient is an intense fatigue and stiffness of the fingers, or a sense of sluggishness in the hand, the pen refusing to act as rapidly and as exactly as is its wont. Or, on the other hand, the disease may first intro-



duce itself by the onset of an agonizing cramp of one or other of the muscles of the thumb or forefinger, or of the interossei of the hand. This may often prove a cause of error in diagnosis in the early stages of the disease; indeed, in two of the cases reported by Dr. Solly, the patients thought they had unwittingly sprained the thumb. If these premonitions of approaching trouble be unheeded, and the disease be allowed to progress, the grasp of the pen will gradually grow less firm, and will have to be reinforced by strong contraction of auxiliary muscles, and even by forcing the pen or pencil upon the paper.

The first change in the handwriting is a coarsening of the letters and a failure in the approximation of the loops of such letters as the *o* and the *a*. This stage I have invariably noted in those cases which I have had an opportunity to observe, and it is especially to be remarked as prodromal of the paralytic form of the disease.

With the progress of the disease the pain or sense of fatigue progresses also from muscle to muscle, until the whole group employed in writing is involved; in one of my patients the deltoid was the seat of pain, and the arm frequently "went to sleep." Occasionally patients notice a feeling of tightness, numbness, or coldness in the hand or arm, and Dr. Reynolds asserts that occasionally there is actual anæsthesia of the fingers. Such are the earliest symptoms of the disease; they are slightly marked only, and are often disregarded, the patient believing that he is affected only by a mild cramp of the arm or fingers, which will pass away before long, and which does not require any specific treatment whatever.

From this point the disease will develop in one of three directions: it will be either (1) spastic, (2) tremulous, or (3) paralytic.

It is to be remarked that it is generally a characteristic of all the forms of the disease that other co-ordinating muscular actions of the affected part are not followed or complicated by over-movements. The writer can carve, drive, and shave without the occurrence of any spasm; so also the tailor and cobbler can write, the pianist can sew, and the artist can play the violin, without the intimation of any involuntary movement; but let that special and complicated movement which has become the subject of disease be attempted, and over-movements are sure to follow. This rule, however, does not hold in all cases, and Dr. Poore has reported two cases in which carving, writing, shaving, and driving were all complicated by over-movements.

The *prognosis* should always be guarded. But when an uncomplicated case of scriveners' palsy is taken early enough, say in the first stage, or even before the second stage is well advanced, and when absolute rest can be secured, and when finally there exists in the affected muscles some faradic irritability, I see no reason why such a case should not recover. On the other hand, the scores of

cases which have come out from treatment only temporarily relieved warn us that we should be wary of rashly promising absolute recovery.

Now, given a patient in whom these over-movements exist, what should be the treatment? In the first place, there is one absolutely essential factor in the treatment of all cases in which recovery is hoped for, and that is *absolute rest*. No case can possibly improve to any great extent without it. By *rest* is meant entire cessation from all those co-ordinative movements which are attended with pain, fatigue, or spasm.

In order to insure restoration I have in one or two cases ordered the arm to be carried in a sling during the first week of treatment. If there be any atrophy of the muscles, stimulating lotions, with rapid *friction*, may be employed; and I have seen good effects follow alternate *douching* with hot and cold water. *Calisthenics* have also been suggested, and may be approved if addressed especially to the affected muscles.

*Massage* in cases of over-movement was first suggested by Wolff, and his results and method were published by Vigouroux in 1882. Briefly, his method "rests exclusively upon active and passive gymnastics of the fore and upper arm, upon massage, percussion, and friction of the same parts, and after a time elementary exercises in writing prescribed and adapted to each case by holding the pen in a definite manner. These are gone through with two or three times daily for half an hour or so at a time." It is claimed that by this method Wolff cured 157, improved 22, and effected no change in 98, out of 277 cases of over-movement. The duration of treatment averaged three weeks.—*American Journal of Medical Sciences*, April, 1885, p. 452.

#### 14.—ON ALCOHOLIC PARALYSIS.

By HENRY HUN, M.D., Lecturer on Nervous Diseases in Albany Medical College, U.S.A.

[After narrating two examples of this disease, and reviewing the whole literature of the subject up to the date of writing, Dr. Hun concludes his paper as follows.]

From the considerable number of cases which have been reported, we are justified in regarding alcoholic paralysis as a special form of disease with the following symptoms: After a number of cerebral and gastric disturbances due to the alcoholic poisoning the symptoms of the disease proper commence with neuralgic pains and paræsthesiæ in the legs, which gradually extend to the upper extremity, and which are accompanied at first by hyperæsthesia, later by anæsthesia, and in severe cases by retardation of the conduction of pain. Along with these symptoms appears a muscular weakness, which steadily increases to an extreme degree of paralysis,



and is accompanied by rapid atrophy and by great sensitiveness of the muscles to pressure and to passive motion. Both the sensory and the motor disturbances are symmetrically distributed, and the paralysis attacks especially the extensor muscles. In addition to these motor and sensory symptoms there is also a decided degree of ataxia. The tendon reflexes are abolished, and vaso-motor symptoms, such as oedema, congestion, &c., are usually present. Symptoms of mental disturbance are always present in the form of loss of memory, and in transient delirium.

These symptoms, with the exception of the mental derangement, and perhaps the ataxia also, are very similar to those of multiple neuritis not dependent upon alcoholic poisoning.

In regard to the lesion associated with these symptoms, the spinal cord has been found entirely normal in all the cases in which a post-mortem examination has been made. On the other hand, during the past four years, degenerative processes have been found in the peripheral nerves in a number of cases of alcoholic paralysis. Lancereaux has reported three cases in which such changes were found, Déjerine and Moeli have each reported two such cases, and Dreschfeld one; eight cases in all.

It therefore seems altogether probable that drunkards are especially subject to multiple neuritis, and that alcoholic paralysis is simply multiple neuritis complicated by other symptoms of alcoholic poisoning, such as mental derangement, tremor, and ataxia. These latter symptoms seem to be due to changes in the cerebral cortex, for in the second case reported in this article there was found a degeneration and atrophy of the nerve-cells in the cerebral cortex, a congestion of the pia mater, and an effusion of serum in the sub-arachnoid space. Very little attention appears to have been given to the study of the pathological histology of the cerebral cortex, either in cases of alcoholic paralysis or in other forms of chronic alcoholism, but a degeneration of the nerve-cells in the cerebral cortex similar to that found in the second case has been described by Dr. Wilks as occurring in cases of chronic alcoholism. An effusion of serum in the sub-arachnoid space, and a chronic congestion or inflammation of the pia mater, are very commonly found in cases of chronic alcoholism.

The lesion, then, in alcoholic paralysis, is in all probability a degeneration of the peripheral nerve-fibres and of the nerve-cells in the cerebral cortex, together with a chronic congestion or inflammation of the pia mater. This lesion explains well the symptoms, although it is certainly curious that alcohol should not attack the spinal cord, but only the highest and the lowest part of the nervous system if one may so call the cortex of the brain and the terminal branches of the peripheral nerves.—*American Journal of Medical Sciences*, April, 1885, p. 387.

# 15.—WHEN A PATIENT DIES OF EXHAUSTION, FROM WHAT DOES HE DIE ?

By J. MILNER FOTHERGILL, M.D., Physician to the City of London Hospital for Diseases of the Chest.

We know that, if a shipwrecked sailor be deprived of food for a certain time, he will die of starvation. He grows weaker and weaker, till, at last, he dies of exhaustion. Just like the sick man, he sinks. We know, too, that, while a man so deprived of food in a cool locality will die in about ten days, he will die in less time in a cold locality; while life will be maintained for a longer period of time, even to seventeen days, in the tropics. (It is assumed that he has access to water.) Starvation is a slow form of burning up. But what is burnt up? The fuel-food of the body, clearly. The fuel of the body is glycogen, and fat—the stored form of fuel. How fat is burned in the body we do not know; but we all know of the fat pig which was buried under a chalk-cliff at Dover for 160 days. It weighed 160lbs. when it was immured; when dug out, it weighed 40lbs. only. It lost 120lbs. in 160 days, and came out a lean pig. It got some moisture.

Glycogen is burnt, we believe, as lactic acid in union with soda—lactate of soda. From the carbohydrates of our food, glycogen or animal starch is stored, mainly in the liver. This glycogen is stored up from each meal, and given off, as grape-sugar, as the body requires it. Disturbance in the glycogenic function of the liver gives us diabetes, a wasting disease. In the diabetic person the combustible portions of the body are burnt up, just as in death by starvation. The liver gives off grape-sugar as long as it has any to give; and, when its store (and the spare store, the body-fat) is exhausted, then the lamp of life dies out, just as the lamp on our study-table dies out when the oil is exhausted.

Now, how does all this bear on our patient sinking from failure of the powers, otherwise “dying of exhaustion”? It bears very materially upon his case. Virtually, the patient is starving to death; he is dying of starvation. How do we feed that perishing patient? We give him beef-tea, calf’s-foot jelly, alcohol, and milk, and seltzer-water or other effervescing water. He may get a small quantity of other foods; but that just given is the staple of his regimen. Now, let me ask, in all seriousness, how much of the body-fuel (grape-sugar) is contained in the list? A small quantity of milk-sugar there is certainly; also, a small quantity of fat in the milk; some oxidisable alcohol certainly. But are we not mocking the famishing man by giving him a stone when he asks for bread? Do we not stand round his dying bedside, and, with the best intentions in the world, let him die by inches before our eyes, unsuccoured, unfed? It is a terrible question we must ask ourselves. Do we, or do we not, let our fellow-creatures



perish because we do not know how to help them? It is a grave and serious matter, indeed. In asking this momentous question, no reproach is levelled at our noble profession. Hitherto, we have worked up to our lights. Is our advancing physiological knowledge giving us more light; or am I wasting your time by talking frivolous nonsense? Are we now in a position to feed our patients by the light of science, as well as by that of empiricism? We may speak of the daylight of science and the lamplight of experience, in relation to this matter, I think.

Fashion prescribes the food of the sick-room to a large extent. Veal-broth had given way to calf's-foot jelly when my professional experience first began. Then a patient who had not had calf's-foot jelly had been neglected—was the verdict of the public. Now the calf can scamper about in safety; its feet are not in demand. Now it is beef-tea which holds the place of honour in the sick-room. The afflicted relatives of a dying man will declare, with a distinct consciousness of having discharged their duty in a creditable manner, of the quantity of beef, of the very best quality, which has been used to make beef-tea for the sick man—"the very strength of the meat," they will add. Their intentions are excellent, but how about their practice? Are they, or are they not, talking nonsense? What food-value does this vaunted beef-tea possess? Answer me that, any of you who can; I will gladly be taught. As a stimulant, as a pleasant vehicle of something else, beef-tea is valuable; but its food-value is so small, that it can scarcely be classed as a food.

I do not desire to speak disrespectfully of beef-tea, nor yet of the motives of those who carefully prepare it, believing it to be a mighty force. I only maintain that to feed—no, that is not the appropriate word—to give a patient beef-tea as food, is to give him a stone when he asks for bread. What that beef-tea needs is grape-sugar. How can this be added? In all our prepared foods, known generically as "baby food," starch has been converted into the soluble dextrine, or maltose; the one grape-sugar, the other only requiring a touch of saliva to complete its conversion. Add some of this material to the beef-tea, and then food is supplied to the famishing system. Starch that has long been exposed to heat (either by the baking process or the malting process) is converted, more or less completely, into grape-sugar. The saliva of a sick person is enfeebled—but on this matter we have only broad impressions, and more precise information is desirable—and so carbohydrates should be provided which do not require insalivation for their solution, being already soluble. Such carbohydrates are now to hand, as may be seen in the museum. There are to be seen malt-extracts containing not only soluble carbohydrates, but also some soluble albuminoids, and phosphatic salts, ground malt of like composition, also grape-sugar itself. The latter is not too sweet to

pall upon the palate when added to beef-tea, or other meat-broth.  
—*British Medical Journal*, Sept. 5, 1885, p. 438.

## 16.—OUGHT WE TO PRESCRIBE ALCOHOL, AND HOW?

By NORMAN KERR, M.D., F.L.S., London.

The medicinal administration of alcohol has, especially of late years, been the subject of much disputation.

There yet linger in our ranks, "*rari nantes in gurgite vasto*," a few survivors of the Brunonian wave of stimulation, who, out-Browning Brown, seem to order fermented wines and ardent spirits to their patients of both sexes, at all ages, in almost every ailment.

There have arisen in our midst some daring innovators, who deny that alcohol, in any form or in any quantity, possesses useful medicinal virtues, and teach that in all circumstances its therapeutic use is positively injurious. These latter will not concede a place to alcohol even in pharmacy, and insist on the preparation of drugs in non-alcoholic menstrua. Between these extremes lie two other groups.

The one, while deprecating the routine and indiscriminate prescription of alcoholics, have not lost faith in the value of such beverages when ordered with care, deliberation, and precision.

The other group, while condemning the use of intoxicating drinks as therapeutic agents, order alcohol, generously it may be, in a purely medicinal mixture, as alcohol at a definite specific gravity.

I began a quarter of a century ago by adopting the last-named plan, combining the alcohol with "*aqua cinnamomi*" or some other pleasing diluent, likely to render the taste as agreeable as possible to the palate of the patient. I soon realised, however, that there were cases in which pure alcohol so taken could not be tolerated or retained; and I gradually fell into the method of prescribing the alcohol in a mixture composed of compound tincture of cardamom, aromatic spirit of ammonia, spirit of chloroform, with cinnamon water, or some similar combination, with the addition of other alcoholic tinctures as indicated.

Both of these modes of prescribing enable the intelligent physician to administer exactly the amount of alcohol which he wishes to employ, and to watch the precise effects of the remedy.

But I at times encountered cases when each of these methods of administration failed, either to secure retention of the potion, or to benefit the patient; and when some ordinary form of intoxicating liquid was the apparent means of tiding the sufferer over a crisis, or proved efficacious in some other way. At times, relief was experienced from whisky, at times from brandy, and at times from some form of fermented wine.



Most practitioners have, as they advanced on their professional career, ordered less and less alcoholic liquor. I, on the contrary, have steadily resorted to this adjuvant to medical treatment more and more. At the same time, so seldom do I prescribe these potent and dangerous remedies, and in so small doses, that the average of recent years has been only once in every 2,000 cases, and the total amount ordered has not averaged annually more than a quart of spirits, and a couple of dozen bottles of fermented wine. As my practice has comprised a fair share of illness and accident commonly treated by intoxicants, such as post-partum hemorrhage, fevers, and shock from injury, and my results have been as good as those of my neighbours, my testimony may be regarded as practically corroborative of the safety and reliability of the treatment of disease and accident without intoxicating drinks. It is right to add that I have found the unfermented port with bark (supplied by Mr. Frank Wright, of Kensington, London) of great value in convalescence from fever and other ailments.

The dictum that alcohol is always, everywhere, and in all quantities, injurious, has no warrant from science or from common sense, and is opposed to the facts. In the present state of our knowledge, such a belief can arise only from the wish being father to the thought. In our recoil from the horrors of intemperance, we are apt to regard alcohol as "only evil, and that continually;" but, as professors of the art of healing, and as interpreters of scientific truth, we have no right to allow our reason to be overborne by our feelings.

To the question, Ought we ever to prescribe intoxicating drinks? I unhesitatingly reply, Yes. How any one can deny that they have been useful, and have saved life, I am at a loss to understand. I have seen cases—not many, certainly—in which, were I to doubt that the timely and judicious administration of fermented wine or distilled spirit has been the means of recovery, I would as reasonably doubt the usefulness of any other drug. For example, in one case of childbirth, to which I was unexpectedly called, the woman appeared moribund, and I had literally no hope of saving her. However, I applied the brandy-bottle, which, of course, stood conveniently near (it is remarkable how handy this physic always is), to her lips, and succeeded in getting about an ounce down. The revival was almost instantaneous, when I forcibly dilated the os uteri, introduced the forceps, and delivered. The patient ultimately made a good recovery. I ought to add that, if there had been at command any other stimulant, such as sal volatile or chloric ether, I would have used it in preference to the brandy.

Let me cite one more case in the practice of my friend, Mr. C. H. Greenly, late of Bristol. A boy, aged 12, was struck down by a severe attack of measles. After twenty-four hours' vomiting, he was pale and collapsed, the pulse very feeble and fluttering, the

face hippocratic, and the boy appeared at death's door. My friend, now an octogenarian, having been an abstainer of long standing, had tried every non-alcoholic and non-intoxicating remedy that could be thought of. As a last resort, a glassful of champagne was given. The vomiting ceased. In half-an-hour more, half a glassful was given. The patient then was able to retain a little food, began to revive, and ultimately recovered. No more stimulants were administered.

It does not always follow that, because a patient has recovered after taking an alcoholic stimulant, he owes his recovery to that stimulant. *Post hoc* is not necessarily *propter hoc*.

I have known recovery take place, and the attending physician congratulate himself on the striking effect of the intoxicant prescribed, when all the time the patient has not tasted it.

Yet, after every reasonable allowance for fallacies, there seems to me to be proof, as clear as we can expect to find of the value of any drug, of unmistakable benefit derived from an intoxicating draught wisely ordered.

Even in cases where an intoxicant seemed utterly inadmissible, I have known good results from such a prescription. Take one instance in the practice of my friend, Dr. Fitch. Dr. Fitch was called in consultation to the bedside of a man apparently suffering from dysentery. The sufferer was *in extremis*, and feebly asked for cider. The physicians were all agreed that nothing could be worse for him. As they were also agreed that nothing more could be done to avert a fatal termination, my friend said, "As we are of one mind that the man is dying, cider can't kill him. Let us give him what he wants." A wineglassful was brought. The patient drank it with avidity, and asked for more. "By all means," said my sensible friend; "fetch a pitcher, and let him drink as much as he likes." The man drank a quart, and, to the astonishment alike of his physicians and his friends, made a perfect recovery.

The record of the results of a greatly lessened administration of alcohol in the treatment of small-pox, in the London hospital-ships, is of deep interest. Having been requested to inquire into the effects of this diminished alcoholic stimulation on the mortality and convalescence, Dr. Birdwood stated that, though the gravity of the cases had increased, with a mortality of 15 per 100 in the metropolis, the ships' death-rate had remained at less than 7 per 100. Convalescence had been more rapid, and there had been fewer and less serious complications from abscesses and inflammatory boils. Other causes had contributed to this improvement, but the medical officers attributed a considerable share in the amelioration to a greatly diminished prescription of alcohol. On the whole, I have no hesitation in giving utterance to the opinion that, as a rule, most cases of all kinds of fever can be best treated



without intoxicating remedies, only a rare case calling for and benefiting by such therapeutic adjuvants. Without hesitation, I may make a similar statement with reference to most other diseases.

*How ought we to prescribe alcohol?*—We should never forget that intoxicating drinks cannot be ordered without some risk of a taste for them being acquired, and the remedy itself proving worse than the original disease.

This risk was strikingly exemplified in the case of a favourite dog of two maiden ladies of my acquaintance. This animal was seized with an attack of acute pneumonia. The veterinary surgeon gave the dog brandy; the dog recovered, whether because of or in spite of the stimulant, I cannot tell. Ever since, if he hear any one speak of brandy, he is up in a moment on his hind legs, begging for the seductive physic. Though I believe the cases of what may be called “medical drunkenness” are not nearly so numerous as is popularly asserted, I have known instances where the medical prescription of strong drinks has been the beginning of a career of excess.

We ought in all cases to let alcoholic liquors be the last, and not the first, remedy, as they are ever fraught with possible danger. Especially we ought not to administer such “tricksy spirits” to reformed inebriates, or to persons who labour under the suspicion of a transmitted alcoholic taint. The whole system of all such is ever ready to respond to the lightest touch of the poison, and the smallest sip will often light up an uncontrollable conflagration.

For these reasons, as well as for the scientific reason that we should administer our remedies in as well defined doses as possible, and in such a form as to be liable to little disturbance from the action of other agents, it is desirable to order alcohol at a certain specific gravity in some elegant mixture, or in a preparation into which alcoholic tinctures of an ascertained strength enter. By both these plans, you can control the amount of alcohol you employ, and you can note the effects.

But intoxicants are not always given to the sick purely for the alcohol which they contain. The ethers developed in wines and spirits are sometimes of a high medicinal value; and, till science has succeeded in separating these ethers from the alcohol with which they are associated, it will be bad practice to exclude intoxicating drinks altogether from our armamentarium.

Bearing in mind the possibility of the narcotic setting up a new chain of diseased symptoms, and even leading to those habits of intemperance which we all reprobate, we ought to limit our prescription of an intoxicant to the occasion only, taking due precaution that the medicine is not continued after the purpose for which the stimulant was given has been gained. We ought, also, for these reasons, as well as to secure the definite benefit which we hope to attain from the administration of an alcoholic drink, to

order the remedy in accurately defined doses. By the adoption of such a line of practice, we shall act in a spirit of loyalty to the high character of our calling; we shall avail ourselves of all the aid derivable from a potent narcotic remedy; we shall shield ourselves from any imputation of recklessness and carelessness; and we shall have the satisfaction of knowing that none of our patients can rightfully reproach us with having launched him on a deep, beneath the treacherous surface of which a perilous fate may overtake the frail and venturesome voyager.—*British Medical Journal*, Sept. 5, 1885, p. 445.

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### 17.—ON PARALDEHYD AS A HYPNOTIC.

By G. F. HODGSON, M.R.C.S., Brighton.

Paraldehyd has been known to chemists for a considerable time; but, as in chemical constitution it is only a modification of aldehyd, and as the latter was known, whether swallowed or inhaled, to produce convulsions and coma, and altogether to be too violent in its action to be safely available in therapeutics, it was too hastily assumed that paraldehyd would be the same.

Less than three years ago, it occurred to Dr. Cervello, of Palermio, in Sicily, to test its powers; and having administered some to rabbits and dogs, and thereby producing in them peaceful sleep, on arousing from which they immediately seemed as before, and at once began to feed, he then ventured to try it on himself. In the course of an hour, he took one drachm, which produced a strongish drowsiness, without any other unpleasant effect. This encouraged him to give it to other people, healthy and sick, with the result of soon proving it to be a valuable hypnotic, devoid of all danger, unless given in such a large quantity as nobody would think of using.

Soon after this, the remedy was employed in Italy and Germany, and of late in this country. In the *Medical Chronicle* (February, 1885), Dr. Leech, of Manchester, has contributed a carefully written article upon it; and a medical officer to one of the asylums at Northampton has recently eulogised it in the *Lancet*.

I believe, that, taken altogether, my own prescriptions of it have now amounted to nearly or quite two quarts. It was expensive at first, half-a-crown for half an ounce; now, a pint may be had for 14s. As it was not at all generally kept by dispensing chemists, I bought it wholesale, as imported from Germany, and dispensed it myself, which has given me the advantage of acquiring a practical knowledge of it pharmaceutically as well as therapeutically; and I can quite join with others who have used it in believing it to be a very valuable medicine. The sleep produced by it is calm, closely resembling that of health, with no unpleasant premonitory or after effect, and its action is prompt. It seems appropriate in most diseases where a hypnotic is necessary:



mania, hypochondriasis, delirium tremens, migraine, and the multifarious minor diseases in which insomnia prevails, being all benefited by it. A great advantage is its non-depressing influence on the heart, in which respect its use is often much to be preferred to that of chloral-hydrate.

Again, in gout, it is very preferable to chloral-hydrate. Liebreich held that the latter, after absorption, undergoes decomposition, setting free, in the blood, chloroform and formic acid, which last might aggravate the effects of the pre-existing uric acid dyscrasia. Others deny this chemical decomposition of chloral-hydrate in the system, and, whether it occurs or not, I do not pretend to know: but clinical observation leads me firmly to believe that the insomnia of gout, whether acute or chronic, is much more advantageously treated by paraldehyd than by chloral-hydrate, the latter medicine having seemed to prolong the acute attacks, and to have promoted their recurrence when given for the insomnia associated with a gouty constitution; whereas paraldehyd has seemed to have the reverse influence, and to help to maintain the excretion of urine well charged with its normal solid constituents.

I know of only two conditions in which the use of paraldehyd is objectionable, namely, in irritable or inflamed states of the throat or of the stomach, which its acridity is pretty sure to aggravate; and, indeed, this pungency is to be borne in mind when prescribing it for any case, and free dilution always provided for. The following formula I find the best.  $\mathcal{R}$ . Pulv. tragac. comp.  $\mathfrak{z}$ j; syrup. aurant.  $\mathfrak{z}$ iv; paraldehydi  $\mathfrak{z}$ j; sp. chlorof.  $\mathfrak{m}$ xv; aquam ad  $\mathfrak{z}$ iiij.

In mild cases, one such dose at bedtime suffices for the night; in more severe cases, its repetition may be necessary in an hour or a few hours; and such repetition answers better than giving a larger dose at once.

By combination with morphia or with bromides, the soporific effect of both medicines seems enhanced.

As an anodyne, the power of paraldehyd is feeble. It acts principally upon the cerebrum, and partially on the medulla. It is antagonistic to strychnia, as proved by its preventing (when given beforehand) an otherwise fatal dose of strychnia from killing a rabbit or other small animal (Société de Thérapeutique, quoted by the Medical Press).

The powerful smell of paraldehyd is disagreeable to some people, and specially so the persistency with which the breath is tainted with it, twenty-four hours often scarcely sufficing for its departure after a dose; but then, as Dr. Leech remarks, this fact is a great security against its being taken clandestinely, as chloral no doubt is. When the drug is administered, *per rectum*, the breath is still tainted by it. How it might answer in the sleeplessness of inflammatory and febrile diseases, I do not know, but I should expect not so well as chloral-hydrate.

Paraldehyd (*πάρα*, side by side with) is an isomeric modification of (acetic) aldehyd. At ordinary temperatures it is a colourless and inflammable fluid, whose specific gravity is 0.998, therefore just a trifle lighter than water, and with a powerful odour, somewhat resembling cœnanthic or nitric ether. Mixed with a little water it appears oily, and with a larger quantity, on shaking, mixes well.

Aldehyd (alcohol dehydrogenatum) is an organic compound, intermediate between alcohol and acid. It is derived from alcohol by abstraction of two atoms of hydrogen, and is converted into acetic acid by the addition of one atom of oxygen.

There are numerous aldehyds (acetic, benzoic, cœnanthyllic, salicylic, valeric, &c.). Nearly all of them are liquids which volatilise, and they are prone to decomposition, mere exposure to the air converting them into acids. Some of them exist ready formed in plants, or are given off as volatile oils on distilling the plants with water; thus cinnamic aldehyd constitutes an essential part of cinnamon oil, salicylic aldehyd of oil of spiræa, and so on. Aldehyd acted on by chlorine, is converted into chloral.

These chemical details may be thought a little superfluous in a therapeutical subject, but, to my mind, it is interesting to understand paraldehyd's place in nature; and, moreover, as other aldehyds besides our acetic friend may have their paraldehyds, possibly some of these also may be found, some day, to possess valuable medicinal virtues.—*British Medical Journal*, July 18, 1885, p. 99.

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#### DISEASES OF THE ORGANS OF CIRCULATION.

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##### 18.—ON TAPPING THE PERICARDIUM.

By Prof. T. GRAINGER STEWART, M.D., F.R.C.P. Ed., F.R.S.E.,  
Physician to the Queen in Scotland, Edinburgh.

[Dr. Stewart concludes the narrative of a successful case of paracentesis pericardii with the following notice of the published results of the operation.]

It is unnecessary for me to go into the history of it in detail, but I may remind you of its introduction by Romero of Barcelona in 1819, of its being performed by Schuh in one of Skoda's cases, of Trousseau's successful performance and warm advocacy of it, and of the valuable evidence in its favour supplied by Dr. Clifford Allbutt, of Leeds. My friend, Dr. Philip, has gone over the literature of the subject for me, and has compared the statistical tables prepared by different writers. Three authorities have collected series of cases, namely, Dr. Hindenlang of Freiburg, Dr. Roberts of Philadelphia, and Dr. Samuel West of London.



Taking West's statistics as basis—Successful, 31 ; unsuccessful, 49 ; there have to be added from Hindenlang 3 cases, all of which were unsuccessful ; and from Roberts 7 cases, of which 3 were successful and 4 were unsuccessful ; and from other sources (not included in statistics) 7, of which 4 were successful, and 3 were unsuccessful.

Thus, from all sources we have 97 cases : Successful, 38 ; unsuccessful, 59. With results such as these, it is clear that the operation deserves recognition as justifiable practice in certain cases.

What are the indications for its use ?

1. It should be tried wherever life is imperilled by the copiousness of the effusion.

2. It should be tried, even if pericarditis be not in itself dangerous, in any case of considerable pericardial effusion in which the pulse threatens to fail. Whether it be due to inflammatory or degenerative changes in the cardiac muscle, or to general debility from severe or prolonged disease.

It was upon the second rule that I founded my practice in the case under discussion.

What are the best rules for operative procedure ?

1. Exploratory puncture should be made by means of a Wood's syringe or other fine perforated needle, the needle being cautiously introduced at a point where there is absolute dulness and least likelihood of injuring the heart.

2. If serous fluid be found, the fine needle of an aspirator should be introduced at the same point and the fluid drawn off.

3. If purulent fluid be found, either aspiration, or what is probably better, free incision, should be resorted to and the pus evacuated. The splendid results obtained by the latter plan of treatment by Dr. West and by Professor Rosenstein of Leyden must satisfy any one who reads their papers of the value of this method.

4. As to the quantity to be drawn off, opinions are somewhat contradictory. If the fluid be purulent, it is obviously desirable to remove the whole of it as speedily as possible ; if it be serous, I think that this rule does not necessarily hold. While admitting that there is plenty of evidence to show that the pericardium may be emptied or almost emptied without danger to the patient, it appears to me that only a sufficient quantity to give relief should be removed. It is a sound principle that in dealing with vital organs only the minimum amount of interference required should be had recourse to, and especially in cases which threaten failure of pulse is this precaution necessary. It is conceivable that the sudden removal of considerable pressure from the surface of the heart might sometimes lead to a fatal syncope, while the removal of a small quantity of fluid would involve no such danger. You

are familiar with the occasional occurrence of syncope when paracentesis of the pleura is being performed, and whatever may be the explanation of this fact, it seems quite as likely to occur in connection with the pericardium. I therefore prefer, as at present advised, to draw off only a small number of ounces, and, if necessary, to repeat the operation, rather than to adopt the method recommended by the majority of authorities, and draw off a large quantity at once.

5. At what point should the puncture be made ?

It is not very important what point is selected for puncture, so long as the operation is performed with caution. Obviously, wounding the heart is to be carefully avoided, notwithstanding the fact that it has been wounded, and even penetrated, without seriously bad effect. I should insist upon the puncture being made where there is absolute dulness, and should prefer the fifth interspace as much to the left of the sternum as possible. By such a rule we most avoid risk of injuring the heart.

One other point in connection with this case deserves attention, namely, the character of the fluid which was drawn off. It was markedly bloody, much more so than my experience of post-mortems in cases of the kind had led me to expect. One would not be surprised at finding the serum bloody in a case of pericarditis associated with purpura or scorbutus, or even in one associated with malignant disease, but I was not prepared for the appearance of such fluid in this case. Küssmaul, however, has recognised the fact that bloody serum is common in pericarditis, and mentions one case in which, desiring to tap the pericardium, he got a straw-coloured serum, and, suspecting that he had only reached the pleura, pushed the needle further in and got the characteristic pericarditic fluid. I would, therefore, warn any one who is performing the operation that he need not be startled if he find the fluid of a reddish colour.—*Edinburgh Medical Journal*, Aug. 1885, p. 118.

## 19.—ON TAPPING THE PLEURA IN CARDIAC DISEASE.

By Professor GRAINGER STEWART, M.D., &c., Edinburgh.

The subject of tapping the pleura in cases of cardiac disease is one which I should scarcely have thought of bringing separately under the notice of the Society, seeing that it is so obviously suggested by the condition of such patients, and might, therefore, be assumed to be very generally adopted. But I find that it is little used by practitioners, even such as have become familiar with tapping for pleurisy ; and in four recent standard works upon diseases of the heart, into which I have looked for reference to this special point, I find no mention of the procedure.

There are two classes of cases which should be recognised—first, the obvious cases of hydrothorax in which, along with cardiac



disease, there is great dyspnœa constantly present, although occasionally aggravated by severer paroxysms. With these symptoms there is also extensive dulness on percussion in the lower part of the thorax, absence of fremitus and of respiratory sounds, and not unfrequently œdema of scrotum or general anasarca.

But there are other cases in which the physical signs are less distinct. There is again cardiac disease with persistent dyspnœa, the dyspnœa often extremely distressing. There may or may not be some degree of general dropsy. On examination of the chest there is little dulness, not more than an inch or two inches at the base of the pleura on both sides, or only on one, the vocal fremitus is not lost though diminished, and the respiration, although indistinct, is audible. At the upper margin of the dulness crepitations are often heard, and the symptoms and signs might be assumed to indicate a mere œdema, or a quite unimportant effusion into the pleura. Nevertheless, when paracentesis is performed, fluid flows readily, and perhaps twenty, thirty, or even more ounces are removed, with the effect of immediately relieving the dyspnœa, improving the heart's action, and, consequently, dispelling any general dropsy which may have been present. Now, when I first adopted this practice, a good many years ago, I used to wonder how so large a quantity could be present in the thorax with so little dulness on percussion. The explanation appears to me to be that, in these cases, a depression of the arch of the diaphragm takes place either from changes in the muscular fibre of that structure itself, or from long continued pressure downwards by effused fluid. If such depression exists, it is obvious that the capacity of the thorax may be greatly increased.

It is unnecessary to say anything about the mode of performing the operation. The only point on which I should insist is the preliminary exploration with the injection syringe. I always carry such an instrument in my pocket, and in any doubtful case can satisfy myself at once as to whether fluid is present or not. If it be present, I introduce the needle of an aspirator, and draw off whatever quantity of fluid may be present. The results obtained are usually very satisfactory, the patient's suffering being greatly diminished, and life being prolonged for months, or even for years.

[Two illustrative cases of mitral disease are here narrated, shewing marked benefit from evacuation of fluid in the pleural cavity.]

Another illustration is afforded by a case in which, in addition to cardiac disease, there was general dropsy, such distension of the scrotum and prepuce as made walking impossible and micturition extremely difficult. Diuretics and other appropriate remedies failed to give any relief, and puncturing the distended skin seemed to be hazardous. Finding effusion in the pleura, I proceeded to draw it off, and from that time all the symptoms became relieved, and

the dropsy gradually disappeared, so that the man was able to return to his work as a labourer.

I had recently in the wards a patient suffering from mitral disease, and in a state of extreme dyspnoea. On examination I found oedema of scrotum, some swelling of legs, and a little dulness at the base of thorax posteriorly. Having made sure of the presence of fluid in the usual way, I directed the house physician to draw it off. He removed twenty-eight ounces. The breathing was immediately relieved, and the dropsy speedily began to subside.

These instances may suffice as illustrations. I might have given them in greater detail, but consider that a brief statement is sufficient.

It is often worth while to remove the fluid from the pleura even in cases in which no prolonged benefit is to be looked for. In illustration, I may refer to a case which I saw along with my friend, Dr. Malcolm, a case of mediastinal sarcoma, which was attended by effusion in the pleura and great dyspnoea. The pleura was tapped on several occasions, and great relief was experienced on each occasion, life being prolonged for a few weeks in consequence. It is unnecessary to cite other cases in illustration of this point.

Such operative interference does not always succeed. The heart may be so much affected, or the lungs so oedematous, or other complications may exist of so formidable a nature, that it is impossible for the removal of fluid to prove serviceable; but I have never seen a bad effect from it, unless, perhaps, a little temporary disturbance of respiration.—*Edinburgh Med. Journal*, Aug. 1885, p. 121.

## 20.—MENTAL SYMPTOMS OF AORTIC REGURGITATION.

By J. HARRINGTON DOUTY, Senior Assistant Medical Officer to the Worcester County Asylum.

A very large collection of observations, clinical and pathological, must yet be forthcoming before anything like a satisfactory conclusion can be arrived at with regard to the relations between heart lesions and certain forms of insanity. During an examination of the hearts of a number of patients in the Worcester Asylum, I have so far met with fourteen in which there is incompetence of the aortic valves.

[Brief notes of each of these cases are given, and the writer then observes:]

On reference to the above cases, we find that of the fourteen no less than eleven are cases of mania; there is one of dementia, one of dementia with general paralysis, and one of melancholia. It is evident, therefore, that as far as this small collection of cases is concerned, no less than 78·5 per cent. are instances of the association of mania with aortic regurgitation. Of these eleven cases of mania no less than seven possessed very marked auditory and visual



hallucinations. It seems probable that when fuller statistics are forthcoming upon this subject we shall arrive at a conclusion that the typical mental symptom of aortic regurgitation is a delusional mania, coupled with a condition of extreme instability of temperament. Patients whose aortic valves are incompetent, who are insane, are almost without exception of a touchy and excitable nature; very little upsets them; on the least provocation they will try to fight and struggle with their nurses to attain their own way, and are consequently very difficult and dangerous cases to nurse. As surely as one discovers an aortic regurgitant bruit, almost so surely is one told by the attendant of the obstinacy and irritable temper of the patient, the least thing causing a violent outburst of anger and abuse. Another very common and interesting accompaniment of this valvular lesion is the prevalence of hallucinations, whose cause, however, it is not difficult to find. General clinical observation tells us how any alteration in the state of the circulation may cause symptoms which, if persistent, would soon develop into delusions. The tinnitus resulting from an anæmic or congested brain; the clouds and obscurities complained of by the subject of grave heart lesions; the giddiness and buzzing complained of by the anæmic girl; the troublesome throbbing, humming, or whistling noises which are heard by a patient who suffers from nocturnal palpitation, are familiar points of interest. It is probable that the hallucinations resulting from aortic disease or any cause other than a local lesion of the ear or eye, are usually of central rather than of peripheral origin, for they are common in cases in which the organs of special sense have been disorganised for years. We know that usually the flow of blood through the capillaries should be constant and equable. We may infer, therefore, that the blood flowing through the minute vessels of the internal ear, the retina, and the brain itself, does so in a fairly continuous stream in health; and that not only is the rate equable, but the pressure is also constant, or at any rate not subject to any sudden and frequent variations. Given, however, a grave reflux through aortic valves, and the converse of these conditions is established; the pressure in the capillaries becomes rhythmically various, increasing and diminishing with every cardiac systole and diastole. We know how acutely sensitive are the nervous centres and their peripheral arrangements of any departure from the normal. Such a condition of things, therefore, as that resulting from a grave aortic incompetence may produce a material interference with and perversion of the performance of their functions. It seems but natural, therefore, that, in the majority of cases associated with aortic reflux, hallucinations should be so common.

It is interesting to note that heredity to insanity only existed in three out of the fourteen cases; sunstroke and drink were possible factors in two; in all the others no probable cause existed other

than the heart lesion ; and in the three with heredity one cannot say how far the heart disease was an exciting factor which developed the predisposing cause. How far the drink and sunstroke acted as causes in the two cases is also questionable ; they neither of them recovered ; one died, and the other is a chronic case. Had drink alone been answerable for the mania they might have recovered ; atheroma and aortic disease, however, resulted from the drink, and hence death and chronicity. The typical form of insanity, then, resulting from aortic regurgitation is probably a delusional mania, frequently associated with very marked hallucinations and with a tendency to violent outbursts of rage and anger. That in many such cases no exciting cause for the insanity can be found other than the heart lesion, is also evident from the fact that in twelve out of only fourteen cases this was so. The recovery rate for these fourteen cases of insanity is 0 per cent. ; this fact points strongly to the importance of the heart mischief as a causative factor ; the insanity is a symptom of an incurable organic lesion, and as such is also itself incurable. Rest as a therapeutical agent is more or less serviceable in these cases ; a few have recovered for a brief period sufficiently to leave the asylum, but they soon returned. If we had access to their aortic valves, and could repair their lesion, then we might possibly alter our prognosis.—*Lancet*, Aug. 22, 1885, p. 336.

## 21.—ON MANGANESE DIOXIDE FOR CHLOROSIS.

By JOHN STRAHAN, M.D., Belfast.

The black oxide of manganese, or manganese dioxide ( $\text{MnO}_2$ ), is a heavy black powder, which dissolves almost entirely in hydrochloric acid with evolution of chlorine, and gives off oxygen when heated to redness. The commercial salt is not used in medicine, but an oxide purified by precipitation, which consists principally of hydrated manganic oxide, a bulky black powder, free from grittiness, and entirely soluble in cold hydrochloric acid. This may be given in doses of from three to ten grains or more, in pills with syrup. The preparations of manganese are somewhat irritant to the gastro-intestinal mucous membrane, and the sulphate is emeto-cathartic in full doses. In small doses, the manganic salts promote the appetite and digestive functions. Manganese and iron are found together in the blood, hair, bile, biliary concretions, and renal calculi. The proportion of manganese to iron in the red blood-corpuscles is as one to twenty. Being an essential constituent of the blood, it undoubtedly has to do with the constructive metamorphosis of the body. Used in large doses and for a considerable period, it produces effects analogous to those of zinc—progressive wasting and feebleness, a staggering gait, and paraplegia. According to Laschkewitsch, in toxic



doses it causes in animals death by convulsions. In smaller doses, it lowers blood-pressure and the action of the heart, and diminishes the pulse-rate.

Like arsenic and phosphorus, manganese produces acute fatty degeneration of the liver and principal organs. Injected into the veins of animals, it causes tetanic cramp, dilatation of the pupil, exophthalmos, and death. After death, the heart does not respond to electrical stimulation (Laschkewitsch). The salts of lead, silver, and mercury, and the caustic alkalies, are chemically incompatible with manganese. Iron is synergistic as regards hæmatinic effects, and the salts of silver, copper, and zinc, as regards effects on the nervous system. As regards its use in chlorosis, it has not hitherto been found of much use alone; but there is no doubt that its combination with iron much increases the efficacy of the latter, just as arsenic does. I fancy that if some of the various preparations of iron alone, or combined with quinine, arsenic, and nuxvomica, with proper attention to hygiene, and oils or fats if indicated, do not cure chlorosis, manganese will be very likely to fail also. "Anxious" does not give any details of his case; perhaps there is something keeping up the chlorotic condition—menorrhagia, other womb-disease, syphilis, struma, tubercle, lead-poisoning, malarial cachexia, Bright's disease—or perhaps it is fæcal anæmia, from constipation. In any of the above cases, it is of very little use to merely give iron or other hæmatic. The cause must be first attended to, when the secondary anæmia becomes quite tractable.

Catamenial anæmia seems often to be secondary to amenorrhœa or other form of disordered menses, on account of the want of excretion; the blood not being properly depurated, just as in fæcal anæmia. In such cases, purgatives, potash, or other eliminatives must precede or accompany the hæmatics, or the latter will be without effect. Or, perhaps, the case is one where the aorta and vessels are congenitally small, as described by Virchow, when of course all remedies are likely to fail.—*British Med. Journal*, Sept. 5, 1885, p. 473.

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## DISEASES OF THE ORGANS OF RESPIRATION.

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### 22.—ON ANTIPYRIN IN PHTHISIS.

By J. HOLLAND, M.D., St. Moritz, Switzerland.

Those placed in a similar position to myself must have noticed what has struck me forcibly, namely, for what trivial causes the consumptive's temperature will rise. A little extra exertion, a political discussion, an attack of indigestion, a slight fall on the ice which has caused neither pain nor apparent injury, an attack of toothache—any of these things, which to a person in health might

mean nothing, often tend in the sensitive phthisical patient to start a degree of fever which it is frequently difficult to suppress. Should the pyrexia continue for two or three days, we are almost certain to discover signs in the lungs of some fresh mischief; perhaps a little softening is detected over an area that had begun to dry up, or crepitation manifests itself in a part of the affected lung, where, after careful examination, it had not been noticed before. This fever, then, is the first and earliest symptom of lung change, and must, in my opinion, be immediately attacked.

Besides rest, even to the extent of confining one's patient to bed, and careful dieting, one must have recourse to medicinal remedies. I have generally found the following useful, although sometimes one and all have been extremely disappointing: quinine, the various preparations of salicin, digitalis, aconite, kairin, and Warburg's tincture, are the principal drugs I have employed, and I find they are more efficient when given in some effervescing form. For the last eight months I have been using "antipyrin," and certainly in my hands it has been more successful than all the other drugs put together. As my experience of the action of the remedy has been mostly in the pyrexia of phthisis, I wish to speak of it particularly with reference to its effect in this disease.

[The writer here gives detailed notes of sixteen cases of phthisis in which antipyrin was given with most gratifying results. The following may be taken as fairly typical of the series:—]

In July last I was consulted by a lady about her health. That morning she had spat up about two teaspoonfuls of blood, and on examining her chest I found a cavity at the left apex, with extensive softening all around it; there was softening also at the right apex in front, but over a limited area; the cough was particularly troublesome, and appeared to be out of proportion to the amount of expectoration, although this was considerable. She informed me that fever had persisted with her in a way that had been considered remarkable by the doctors who had attended her from time to time, and for the last two months she had been taking two grains of quinine twice, and sometimes thrice, daily; but, in her opinion, this had not controlled the pyrexia, for her temperature rose daily to about  $102^{\circ}$ , indeed, during the last week it had on three occasions reached  $103^{\circ}$ , being highest at from 4 to 6 p.m. On visiting her the next day at the same hour, she told me she had not slept so well as on the previous night, that she had had rather more fever ( $103\frac{3}{5}^{\circ}$  at midnight), and her cough had been more troublesome. She had taken six doses of a digitalis mixture, but as her temperature was then  $103\frac{1}{5}^{\circ}$ , and her pulse 118, I determined to try something else. I accordingly prescribed twenty grains of antipyrin every three hours while awake, until three doses had been administered, and advised the temperature being taken just



before each dose was given. I saw her next day at the usual hour, and directly I entered the room I noticed how much better she looked. She told me she had taken the first dose of the antipyrin on the previous evening at 6 o'clock, and in less than an hour afterwards she felt more comfortable and less feverish. Accordingly, as much out of curiosity as anything else, she took her temperature, and was delighted to find it was hardly  $101\frac{3}{5}^{\circ}$ . At 9 p.m., just before taking the second powder, it was exactly  $101^{\circ}$ , and at a quarter to eleven,  $100\frac{2}{5}^{\circ}$ . She had slept well, only waking up when the cough troubled her, had eaten better, and altogether felt herself much better and more "comfortable" than she had done for weeks. Her temperature that morning at 10 o'clock was barely  $99^{\circ}$ , so she had not taken another powder (the third from the beginning) until 2 o'clock on that day, when she began to feel her temperature rising, and, on using the thermometer, she found it registered  $101\frac{1}{5}^{\circ}$ . I now tested it myself, and after six minutes' trial with a very perfect and delicate instrument, found the temperature was only  $100\frac{2}{5}^{\circ}$ , and the pulse 96. My patient complained of no disagreeable or unusual sensations; on the contrary, she described her condition as being "very comfortable." I could discover no altered signs in the chest with the stethoscope, and there had been no evacuation of large quantities of expectoration, or anything else that could reasonably account for the fall in temperature, except the action of the drug itself.

My patient continued the antipyrin twice a day for some days longer, and once daily for about a week afterwards. During this period she had only an occasional elevation of temperature, the highest registered being  $100^{\circ}$ . Her cough improved, the expectoration became less, and she was able to take carriage exercise. In a month from the time when I first saw her she had gained three pounds in weight, the expectoration had become markedly less, and she only coughed in the mornings. The physical signs had improved in proportion, for the softening at the right apex had cleared up, and had conspicuously diminished around the cavity at the left side; the cavity itself showed signs of healing, and freer breathing was heard all over the left lung.

This patient remained the whole winter at St. Moritz, and has derived enormous benefit from the climate. She has gained fifteen pounds in weight; her temperature has been normal almost ever since August last; she can walk ten miles with only a comfortable sense of fatigue, and her appetite and digestion have been excellent. Her chest shows an increase of  $1\frac{1}{4}$  inches, and there are signs of emphysema around the portions of lung where mischief had been most active. The cavity itself is very much contracted, and almost quite dry. She is free from cough and expectoration, except in the mornings, and these are insignificant.

In conclusion, I can only say of antipyrin that, in cases of chronic

fever such as we have to deal with in consumption, it has no rival. Lately, in one of the medical journals there was an account given of a case of poisoning by this drug after thirty grains had been given, and, if my memory serves me right, fifteen grains more after a short interval.

Beyond the few symptoms of disturbance which I have related in my cases, and which were in no way serious, I believe fifteen or twenty grains may be given every four hours to adults, without any fear of bad results.—*Practitioner, May, 1885, p. 321.*

### 23.—ON NASAL ASTHMA: ITS CAUSES AND TREATMENT.

By G. HUNTER MACKENZIE, M.D., Surgeon to the Eye, Ear, and Throat Infirmary, &c., Edinburgh.

The causal relationship between nasal disease and asthma was first pointed out by Voltolini, in 1872 (referred to by Morell Mackenzie, in his *Manual of Diseases of the Throat and Nose*), and since that time numerous cases have been recorded which have established the accuracy of this observation. In all these instances, with one exception recorded by myself in 1883, polypi, or marked swellings of the nasal mucous membrane, have been the varieties of disease present. This has given rise to the theory held by some, that the asthma is owing to mechanical obstruction to the passage of air; and additional confirmation of this view is supposed to be afforded by the disease disappearing on the removal of the obstructing mass.

Against this theory two arguments can be advanced; the frequency of polypos or tumefaction of the nasal mucous membrane without asthma, and the presence of nasal asthma without the occurrence of either. The first is a matter of every-day experience, and the second has received illustration by the case above referred to, in which violent paroxysms of asthma were associated with a condition of chronic (atrophic) inflammation of the nasal mucous membrane, and ceased on the application of nasal remedies; and by the following case that has recently come under my notice.

A boy, aged 13, was brought to me on January 23rd, 1885, on account of a copious watery discharge from the nose, and asthma. He had suffered from these for about ten years, with slight periods of remission. The asthmatic attacks were often very severe, and generally occurred about 4 or 5 a.m. The condition of his nose necessitated the use of from twenty to thirty handkerchiefs daily. Anterior and posterior rhinoscopy showed chronic catarrh of the nasal mucous membrane, with a slight amount of muco-purulent secretion. There was no polypus or thickening of the membrane. Though not robust, he presented no indications of disease elsewhere. (This patient has, apparently, quite recovered, under the aforementioned treatment.)



What is the explanation of such cases? I believe the asthma to be owing, not to any mechanical obstruction of the nasal passages, but to a condition of abnormal irritability of the nasal mucous membrane, due to, or aggravated by, chronic inflammation. Polypi may, or may not, co-exist; when present, they doubtless assist in maintaining the augmented irritability of the mucous lining. The high degree of normal sensitiveness of the mucous membrane of the nose is well known; and when this membrane has been the subject of long-continued inflammation, its irritability appears to become highly augmented, and more easily excited. Reflex acts are then readily induced, of which sneezing, cough, and asthma are the principal indications.

The peripheral irritation may be caused by dust or pollen, and hence the attacks are usually worse in midsummer and autumn; by cold, therefore their frequency in the early morning hours; or by the irritation of a polypus. Dr. John Mackenzie, in the *Maryland Medical Transactions*, has recently stated that asthmatic attacks in cases of nasal polypus only occur when the growth is, by force of gravity, brought against the posterior part of the nostril, corresponding with the most excitable spot in the sensitive area. On the other hand, Hack, quoted by Morell Mackenzie, considers that reflex phenomena may be produced by irritation of any part of the lining membrane of the nose.

Associated with the asthma are, usually, excessive sneezing, and profuse discharge of mucus from the nose, occasionally cough. There is more or less impairment of the general health, with languor, and depression of spirits.

The treatment of these cases must obviously, in the first place, be directed to the removal of the exciting cause. The patient ought to be directed to reside in an atmosphere as free as possible from dust and other atmospheric impurities. Above all, active medication should be directed to the nose; and, after a fair trial of various remedies, I have found none so efficacious as belladonna, applied in the form of buginaria (nasal bougies). From one-twelfth to one-sixth of a grain of the extract ought to be incorporated in each bougie, one of these being introduced into each nostril night and morning, and allowed to thoroughly dissolve there. I have found their employment most beneficial, alike in regard to the sneezing, the secretion, and the asthma. Their use is usually followed by a burning sensation in the nose, but this is never severe, and soon disappears. I have also experimented with the sulphate of atropia in the same way, but have found it less efficacious, and probably more irritating than the extract. Previously to the introduction of the bougie, the nasal mucous membrane may be cleaned by the anterior nasal spray. The use of the bougies may be gradually made less frequent, according to the amount of success achieved.

The cases which I have hitherto watched have rather belonged to the atrophic than the hypertrophic form of rhinitis, but where vascular engorgement is present, it seems probable that the use of eucaine bougies would be beneficial. According to Bosworth (*Internationales Centralblatt für Laryngologie und Rhinologie*), this drug has a remarkable effect in diminishing the vascularity of the lining membrane of the nose. In actual nasal catarrh, its local application has only a temporary effect.

The treatment may be combined with the administration of tonics, and such other general remedies as may be deemed suitable by the physician. By themselves, these are, however, singularly inefficacious. I venture, therefore, to commend to the profession the use of nasal bougies, containing belladonna, as an effectual method of treating the troublesome and obstinate complaints dependent upon chronic nasal catarrh and irritability, of which asthma is alike the most important and most intractable.—*British Medical Journal*, May 16, 1885, p. 984.

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#### 24.—ON TREATMENT OF CHRONIC ATROPHIC CATARRH OF THE LARYNX AND PHARYNX.

By DAVID NEWMAN, M.D., Surgeon to the Throat Department of the Glasgow Royal Infirmary.

As regards the treatment of chronic atrophic catarrh of the larynx and pharynx, I may say that few diseases demand such a multiplicity of resource as it does. But, while you may try many agents, there are few remedies so good as those I am about to mention to you; in many cases they are of great service, in others, however, they seem to do little good.

For this form of catarrh, when the pharynx is involved, you should apply a strong solution of carbolic acid to the part; a ten per cent. solution of pure carbolic acid in glycerine is the best preparation to employ when the mucous membrane is dry, and the quantity of secretion small. In cases of laryngitis, instead of using carbolic acid, solution of nitrate of silver (one drachm and a half to the ounce of water) should be carefully introduced into the larynx by means of the laryngeal douche. For the first week, the application should be made daily, or even twice a day. During the second week, you may use it less frequently, say every second day, and so on, gradually increasing the length of the intervals.

Simple or medicated steam-inhalations are, in my experience, of very little use; but the employment of a spray of five grains of sulphate of zinc to the ounce of water is often beneficial, when combined with the treatment I have just mentioned. When there is pain in the larynx or surrounding parts, blisters, applied externally in the same way as I advised you to employ them in cases of catarrh during its early stage, are often of great use.



We may now pass on to the consideration of constitutional treatment; and I will ask your attention, in the first place, to some points in general domestic hygiene to which you will find it necessary to attend. The points in the management of patients who are liable to attacks of catarrh I may state broadly.

First, the temperature of the skin and of the inspired air should be kept as equable as possible, not only during the twenty-four hours, but also during the various seasons of the year. Secondly, the action of the skin should be stimulated as far as possible. Thirdly, the diet should be carefully regulated. And, fourthly, if there be any obvious cause, either external to the individual, or depending upon some internal condition, which may keep up the irritation of the mucous membrane and the consequent catarrh, it should be attended to.

In order to maintain the uniform temperature of the skin, it is necessary that underclothing should be made of a bad conductor of heat; that the suit of underclothing should vary according to the season of the year; and that it should cover the entire body, with the exception of the hand, and head and neck. In a climate such as ours, most people, but especially those who are liable to suffer from catarrh, should cover the entire body with some woollen material during the whole year; but the weight of the garments, or the proportion of wool contained in them, must vary according to the temperature of the atmosphere. One frequently meets persons who wear comparatively little underclothing, and this error is almost as common amongst the rich as among the poor. Many affirm that they cannot wear flannel or woollen cloth next the skin; in such instances, silk or wash leather may be substituted. The great object should be to keep the skin at an uniform temperature, and prevent the underclothing from becoming moist with perspiration. Persons who are subject to catarrh should be careful to change their underclothing frequently, and always change on going to bed, a fresh suit being worn the following day. It is also necessary that every article of clothing which may become damp should be changed as soon as possible; this remark is specially applicable to the coverings of the feet and lower extremities.

It is also necessary that the patient should breathe an atmosphere of uniform temperature. The bedroom should be warmed by means of a fire, especially in cold and damp weather. This is a precaution which is frequently neglected. How common it is for even those who suffer from chronic catarrh to pass from a well heated public room, to undress in a bedroom where the temperature may be 20° or 25° Fahr. lower. Most patients cannot leave this country during the winter season; in such cases, if possible, they should remain indoors in cold or damp weather, or, when they go out, wear a respirator. Cold winds and night-air should be carefully avoided.

The functions of the skin should be scrupulously attended to and maintained in an active state, by the employment of either a douche or spray, the bather's feet being kept warm by being placed in hot water, while the rest of the body is being sprayed or sponged with cold water. Brisk friction should then be employed, and the body dried as quickly as possible. Sea-bathing should not be indulged in as a rule.

The question of diet is one of great importance, for undoubtedly a large number of the cases of catarrh trace the origin of their suffering to dyspeptic disturbance. I have not sufficient time at my disposal to go into this question fully; I shall therefore only indicate very briefly the points which should be attended to.

Meals should be taken regularly, and not at too long intervals; the diet should be at all times nutritious, especially if there be much emaciation; the quantity of sugar taken should be reduced to a minimum, and the patients should partake freely of fresh fruits and vegetables, while such articles of food as potatoes and rhubarb should be avoided. As to the use of stimulants, no definite statement can be made; each case must be judged of on its own merits. In old persons, or in persons with a feeble circulation, alcoholic stimulants are of service; and probably there is no better one than whisky in small quantities, twice a day, in aerated water. Tobacco smoking is positively injurious in all cases of chronic catarrh.

The only other particulars which I have now to consider are some of the external influences or internal conditions upon which the catarrh may depend. The former I mentioned when considering the etiology of the disease; it is not necessary, therefore, for me to allude to them now, further than to say that, as soon as the immediate cause of the affection is discovered, the removal of the patient from exposure to it is the first thing called for.

There are, however, some constitutional conditions with which the various forms of chronic catarrh are associated, which demand your attention; and amongst these I may mention struma, gout, rheumatism, certain nervous affections, and cardiac diseases, which, by inducing congestion of the mucous membrane, keep up the symptoms of catarrh. Anæmia also is frequently associated with chronic catarrh of the larynx or pharynx.

These conditions must, in all cases, be looked for, and, when detected, they should be treated according to their requirements. In the great majority of cases, tonics are called for; and iron, especially in astringent preparations, is of great value, particularly when combined with quinine and strychnia. Cases of dry catarrh are frequently associated with gout, a disease we very seldom see in Glasgow; and in such instances the greatest possible good is said to be derived from the administration of colchicum and alkalies; whereas, in cases where the quantity of mucus secreted is large,



you will find that the patient will derive considerable relief from the use of lozenges containing half a grain of cubebs, one to be taken every three or four hours.—*British Med. Journal*, July 11, 1885, p. 50.

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DISEASES OF THE ORGANS OF DIGESTION.

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25.—ON FÆCAL ABSCESS.

By SAMUEL FENWICK, M.D., F.R.C.P., Physician to the London Hospital.

Fæcal abscesses may exist in connexion with any part of the intestinal canal, but they vary greatly both in their causes and effects according to their situation. It will be necessary, therefore, to consider those related to the large and small intestines separately, and I propose in the present instance to direct your attention to the former only. In order that a fæcal abscess should result from the perforation of any part of the canal, it is necessary that the ulceration should proceed slowly so that time may be given for enclosing by adhesions the substances that escape; for the sudden introduction of decomposing matter into the peritoneal cavity always sets up violent and fatal peritonitis. It is because the extension of ulceration to the exterior of the intestine is rarely slow that so few cases of abscesses of this character are met with. In looking over the post-mortem records of this hospital I have only found sixteen cases in which a fæcal abscess is mentioned in connexion with the large intestine. Many other cases of communication between the interior of an abdominal abscess and the colon are recorded, but as it is not stated that the contents were of a feculent character, I have not counted them in the above number. As this number is too small to admit of any safe deductions, I have collected from various authors sixty-six cases in which a communication was discovered after death between an abdominal abscess and the large intestine, and in which the contents were of a feculent character.

The situation of the abscesses mentioned in our post-mortem records varied considerably; thus, in two they were connected with the cæcum, in four with the ascending, in two with the transverse colon, in three with the sigmoid flexure, and in four with the upper part of the rectum. In those I have collected from various sources fifteen were connected with the cæcum, seven with the ascending, seven with the transverse, and six with the descending colon, nine with the sigmoid flexure, and four with the upper part of the rectum. Moreover, as most of the cases terminating favourably had burst or had been opened in the right groin, it is evident that the cæcum, notwithstanding its small

length as compared with the other divisions of the large intestine, is the favourite seat of fæcal abscess, and there can be little doubt that the fact that this part is less completely enveloped by the peritoneum, and is therefore in nearer relation to the connective tissue behind it, is the chief reason why such should be the case. An abscess of the kind we are considering may commence external to the gut, and afterwards burst into it, or the ulceration may begin in the mucous membrane. Of the collected cases twenty were of the former class, and thirty-three of the latter.

The origin of the abscesses commencing externally varied greatly; some had originated in the connective tissue around the kidneys, others had their starting-point in a diseased ovary, but more commonly the inflammation had commenced in the connective tissue of the pelvis as the result of irritation of the generative organs, and by bursting inwardly allowed of the escape of the irritating contents of the intestine into the sac. You must not, however, suppose that wherever the bowel is perforated by an abscess from without there is necessarily an escape of fæces into it, for there are numerous cases in our records in which this had not occurred. In all probability much depends upon the size and shape of the opening, which may often act as a valve and permit of the free entrance of pus into the gut without allowing of the exit of its contents.

Ulcerations, commencing internally and producing fæcal abscesses, may be classed into those arising from general and those produced by local causes; the former include typhoid fever, dysentery, tubercle, and cancer, whilst chronic catarrh and stricture are the most prominent of the latter. Where fæcal abscess follows typhoid the seat of the ulceration is usually in the small intestine, but I have found two cases where the ascending colon had been perforated after this disease, and allowed of the escape of its contents; and in one, in which details are given, the sac of the abscess was formed by adhesions of the neighbouring organs. There were six cases arising from dysentery, one was connected with the cæcum, one with the ascending colon, one with the descending colon, one with the sigmoid flexure, and two with the rectum. In only two the abscess was walled in by adhesions of the neighbouring parts, in the others the sac was in the connective tissue. All were cases of very chronic dysentery, for where I have seen perforation in the more acute forms of the disease rapid and fatal peritonitis has been the result. In some of them an abscess had formed in the first instance external to the gut, and afterwards had burst into it. In eight cases the abscess was the result of tubercular ulceration, and occurred in persons suffering from phthisis. In one the perforation was in the rectum, in one in the sigmoid flexure, and in five in the cæcum, the only remaining case being connected with the transverse colon. In



three the walls of the abscess were formed by adhesions of the neighbouring organs, and in five the sac was situated in the connective tissue. When speaking of perforation of the vermiform appendage I drew your attention to the frequency with which ulcers occurred in that part in cases of phthisis; for out of fifty subjects examined in succession at the London Hospital ulcers which had not perforated were found in the appendix in only two, and both of these had died of phthisis. The same tendency to ulceration is displayed by the cæcum, although in a smaller degree; and we cannot therefore wonder that in the majority of cases where a fæcal abscess arises from internal causes in this part of the intestinal tract, a tubercular condition is the most common accompaniment. Perforation of the cæcum in tubercular persons may arise from an enlargement and suppuration of the glands behind it, which afterwards bursts into the bowel, and it is most difficult, if not impossible, to diagnose during life this condition from the thickened ulcerated state of the cæcum that occasionally accompanies phthisis.

Fæcal abscesses are much more rare than might have been supposed connected with cancer of the large intestines, considering how common the complaint is. I have only found four post-mortem examinations of this kind, and in all probability the rarity may be explained by the fact that although perforation is a common result of malignant disease, it almost always takes place suddenly, and, therefore, before there has been time for the effused materials to be walled in by adhesions. Of the four cases, one was connected with the cæcum, and the sac was formed in the cellular tissue of the iliac fossa, and three were caused by disease of the transverse colon, the walls of the abscess being formed by adhesions of the neighbouring organs. In my own practice I have met with a fæcal abscess in the left groin resulting from stricture of the rectum, but this is not a common result of cancer of this part. Two cases are mentioned as having been caused by stricture, the nature of the narrowing not being very clear; one was in the ascending and one in the transverse colon, but in both the stricture was at a considerable distance below the abscess.

Thirteen out of thirty-six cases in which the ulceration commenced internally were attributed to catarrh of the mucous surface; and the comparative frequency of this cause of fæcal abscess probably arises from the slowness with which such ulcers often progress. The different anatomical divisions of the large intestine were more equally affected than in the case of tubercular and cancerous ulcerations, for three occurred in the cæcum, two in the flexures of the transverse colon, four in the descending colon, three in the sigmoid flexure, and one in the rectum. As might have been expected from such situations, the walls of the abscesses were formed by adhesions of the neighbouring organs in

nine cases, and in only four cases they were situated in the connective tissue. The causes of the ulceration were attributed either to fæcal accumulations or to the irritation produced by foreign bodies. The tendency of fæcal accumulations to excite ulceration is probably greatest when the general health is much depressed.

I have collected five cases in which a fæcal abscess had formed in the right side of the abdomen, and in which the sinuses resulting from it healed after a foreign body escaped or was extracted ; but, as the patients all recovered, it is impossible to say whether the ulceration had commenced in the appendix or in the large intestine. When you consider the violent symptoms usually set up when decomposing material is introduced into the peritoneum, or is suddenly effused into the connective tissue, you would expect that severe constitutional symptoms would be always present along with a fæcal abscess. This is, however, by no means invariably the case, for in some the contents are walled in by adhesions, so that they are not brought into contact with the bloodvessels, and consequently absorption does not occur. This is probably also the reason why abscess of the liver is, comparatively, a rare consequence of abscesses of this kind. In some instances decomposition of the contents of the abscess takes place very rapidly, and sloughing of the neighbouring organs is produced along with the constitutional irritation that accompanies such a condition.

When examining other forms of abdominal abscess we found there was a considerable difference in the liability of the sexes to them, but this does not appear to be the case with that which we are now considering, for of fifty-three cases twenty-seven occurred in males and twenty-six in females. When we analyse them more carefully, differences appear, which, however, are easily explained : thus, of twenty cases where the abscess commenced external to the gut only seven were males, the increased liability of the opposite sex having arisen from the greater frequency with which abscess occurs in or around the pelvic viscera. All the dysenteric cases were males, the disease having been in each instance contracted in tropical countries, whilst of seven tubercular cases five were females and only two were males.

As regards the influence of age, twenty-six occurred between twenty and forty years of age, and only two were recorded in children under ten. When fæcal abscess commenced externally, it was most apt to take place between twenty and forty, fourteen out of twenty-two having been at that period of life. We before found that perforation of the vermiform appendage was more liable to occur in chronic than in acute phthisis, and the same appears to be the rule in the disease we are now examining, for four out of six were above thirty years of age, and none were below twenty. Catarrhal ulceration is most apt to form fæcal abscess in persons of middle or advanced life, only two out of



fifteen being below thirty, whilst three occurred in individuals above seventy.—*Lancet*, July 4, 1885, p. 1.

## 26.—ON THE DIAGNOSIS AND TREATMENT OF FÆCAL ABSCESS.

By S. FENWICK, M.D., Physician to the London Hospital.

We have seen that the symptoms that present themselves in cases of fæcal abscess vary according to the cause producing them. Let us now inquire if there are any physical signs that may assist in their diagnosis. First, then, as regards the size, shape, or appearance of the tumour. A description of this was recorded in thirty cases, but it varied greatly, as might have been expected, when it was described by so many different observers. It was mentioned as “a swelling in the iliac region” in fifteen cases, as “a well-defined smooth tumour” in three, as “a tumour” in three, as “a hard tumour” in two, as a “brawny swelling” in one, as “a nodular hardness” in two, as “an obscure feeling of tumour” in one, as “an ill-defined elastic tumour” in one, and as “circumscribed peritonitis” in one case. From these descriptions we must draw the conclusion that there is no invariable form of swelling in such cases, and a little reflection will show you that the shape and other conditions of the tumour must vary with its site, the cause of the ulceration producing it, and the nature of its contents. Judging from my own experience, and from the various cases recorded, I think the fæcal tumours of the right side, and especially of those connected with the cæcum, are usually more clearly defined than those in the other parts of the abdomen, chiefly because they are in that region more frequently located in the connective tissue. The “hard,” “brawny,” and “nodular tumours” were chiefly observed when malignant disease had produced the ulceration, whilst the amount of elasticity in the tumours seems to have been regulated by the relative quantity of air and fluid enclosed in the sac.

It is important to observe that fæcal tumours, on account of their being either situated in the connective tissue or being fixed by adhesions of the neighbouring organs, are not capable of being moved either by the respiration or by the pressure of the hand, and this feature will often enable us to discriminate between them and some other affections with which they are liable to be confounded.

An alteration in the size of a tumour, along with an increased action of the bowels, would naturally lead us to suspect that a communication existed between it and the interior of the intestinal tube, and it was noted in six cases that the volume of the swelling was lessened when diarrhoea occurred spontaneously, or was produced by aperient medicines; in only one case it is expressly stated that this did not occur.

Fluctuation was only mentioned in five out of thirty-two cases, but there is no doubt it must have been frequently overlooked. In some that have come under my own observation it has been quite evident, in others it was doubtful, and the difference, no doubt, depended on the relative amount of fluid and solid contents contained in the sac. In acute cases there is generally œdema of the integuments, and this would often tend to prevent the discovery of fluctuation.

The note elicited by percussion varied, of course, with the nature of the contents of the tumour. It was noted as "dull" in three, as "dull on strong percussion" in four, and as giving a clear note in three cases. Some observers have remarked that the note was clear on slight, but dull on forcible percussion, and this seems to me a very important difference, as it would render the presence of air in the contents of the tumour very probable. It is a still more important physical sign when a swelling that has up to a certain time presented a dull note, suddenly becomes tympanitic on percussion; as it shows either that decomposition has occurred in its contents or that a communication has taken place between it and the intestinal canal. "Emphysematous crepitation" was recorded to have been present in two cases, and gurgling on pressure in three. The latter can only take place when the contents are chiefly composed of gas and liquid, and is therefore most likely to be observed when the abscess is enclosed by adhesions of neighbouring organs.

If, then, we sum up the evidence afforded by an examination of the cases I have collected, it appears that although there are no physical signs that indicate with absolute certainty a fæcal tumour, yet if we should meet with a localised abdominal swelling that was immovable by the respiration or by a moderate amount of pressure of the fingers, whose size and shape altered when diarrhœa occurred, and in which light percussion gave a tympanitic, and a more forcible stroke a dull, sound, or in which an emphysematous sensation was communicated to the fingers, or a gurgling sound was produced by percussion, it will be probably of fæcal origin. This probability would be vastly increased if the history of the case should afford us evidence of any of those morbid conditions of the gut which we have before seen are apt to produce ulceration.

The diagnosis of fæcal tumours connected with the colon is generally very difficult, on account of the numerous organs which are situated near to it. It will be, therefore, necessary to examine them separately, according to their position in different parts of the abdomen.

As the most common cause of the disease when the cæcum is the part affected is tuberculosis, you may confound a fæcal tumour in this situation with a thickened and ulcerated cæcum, for in both there may be a clear note on percussion and gurgling on pressure.



In thickened cæcum, however, the tumour is less distinct, less painful; it does not vary in size, and the skin over it is not tender or inflamed. We before found that some cases of perforation of the appendix present swelling in the cæcal region, which affords a gurgling sensation and a clear note on percussion, but these are rarely preceded by signs of ulceration; the symptoms occur suddenly, and they are usually accompanied by constipation instead of diarrhoea.

Fæcal tumours connected with the ascending colon are very rare, and are most likely to be confounded with cancer. In fæcal abscess there is usually diarrhoea; in cancer constipation; the former is not attended with attacks of colic. The temperature is high in abscess, often below the normal in malignant disease. Rapid emaciation and pallor are not such marked symptoms in abscess as in cancer. Diarrhoea often diminishes the size of the tumour in the former, and gurgling on pressure and a tympanitic note on percussion point to fæcal abscess alone.

Fæcal abscess commencing in ulceration of the transverse colon is rarely met with, and when it is the result of catarrh it almost always occurs at the flexure of the gut. Omitting these, I have found only six cases, and four of them were the result of malignant disease, one occurred in a phthisical subject, and one followed an accident.

You will have to decide in tumours of the lateral parts of the abdomen between fæcal abscesses and kidney diseases, as in both you may find an immovable tumour with a tympanitic sound on percussion over it, and you should trust chiefly to the history of the case to enable you to discriminate between them. Fæcal abscesses here are usually preceded by an accident, by symptoms of stricture of the gut, or by constipation or diarrhoea; whilst where you suspect kidney disease you must ascertain if the patient suffers from stricture of the urethra or diseased bladder, or if he has previously passed calculi, or albumen, or blood in the urine. Then a fæcal abscess is more irregular in shape, and may present a gurgle on pressure, or may be much reduced in size by aperients, or the integuments over it may be inflamed or cedematous.

Fæcal abscesses connected with ulcerations of the sigmoid flexure are usually the result of catarrhal dysentery, or of stricture of this part, or of the upper part of the rectum. In the cases that have come under my own notice, the tumours have been ill-defined, their walls being formed by the adhesion of the neighbouring organs, and there is, I think, a tendency to come to the surface more rapidly in this than in other situations.

The treatment of fæcal abscesses is, of course, mainly surgical; and an opening should be made as soon as the diagnosis is determined. When there is any reasonable doubt as to the nature of the tumour, it is wiser to pass an aspirator into it than allow it to

remain unexplored for any considerable time. You must bear in mind that the openings should be very free, as sloughing of the integuments is apt to occur from the irritation set up by the contact of the decomposing discharges.

There are, however, one or two points as regards the medical treatment of these cases worthy of discussion; and one of the most important is, Should purgatives be employed? You might reasonably object to their use on the supposition that, by increasing the peristaltic action of the intestines, the contents of the sac would be increased; but experience does not show this to be the case. On the contrary, I have already had occasion to mention to you that diarrhœa, whether occurring spontaneously or as the result of medicine, has often been found to lessen the size of the swelling, and that, consequently, purgatives may be of use in the diagnosis of the disease. They may be also useful in enabling us to distinguish between a fæcal abscess and a fæcal accumulation in the colon. In such a case you should watch not only the effects of the aperient on the size of the tumour, but also whether there are scybala in the evacuations. But the administration of purgatives, and especially of calomel, seems often to afford relief, not only by removing part of the contents of the sac, but perhaps also by altering the character of the fæces, and lessening their irritating nature. Opium must, of course, be resorted to, for the purpose of relieving pain, and the dose should be in proportion to the effect required. I have seen leeches, blisters, and iodine used in these cases, especially in the earlier period, but without beneficial results; and as soon as the real nature of the case is suspected, I would advise you to content yourselves with the application of hot poultices and fomentations to the painful part, and have recourse to surgical measures as early as possible.—*Lancet*, July 11, 1885, p. 54.

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#### 27.—NOTE ON ICTERUS NEONATORUM.

By HENRY ASHBY, M.D., M.R.C.P., Lecturer on Diseases of Children in the Owens College, Manchester.

There are few of the commoner diseases that we meet with in practice concerning which so many hypotheses have been offered, and yet upon which so little definite knowledge exists, as the peculiar form of jaundice so common in newly born infants. In the minority of cases, those which go on to a fatal issue, the complications noted during life or the results of the post-mortem examination generally clear up the case, or at least provide an explanation of the icterus. To this category belong those cases of jaundice which are due to congenital defect or obliteration of the common bile duct, and syphilitic hepatitis or cirrhosis. Jaundice also, as is well known, accompanies the condition of septicæmia secondary to arteritis or phlebitis of the umbilical vessels. It was also present



in some peculiar cases of hæmoglobinuria, observed by Winkler in the Dresden foundling institution in 1879.

The common form of infantile jaundice, however, to which the name of icterus neonatorum is applied, is but seldom fatal, and has nothing in common except in name with the above fatal forms. It is first observed on the second or third day after birth, is especially common in the premature and weakly infants, and disappears without any bad symptoms having manifested themselves in the course of a week or ten days. To explain this condition many hypotheses have been propounded, though the majority of them rest on no very secure foundation of fact. The older view quoted with approval by Murchison and West, that the yellowness of the skin was no true jaundice, but was due to the changes which the blood-colouring matter extravasated into the over congested skin underwent before being finally absorbed, has at the present time hardly any supporter. The fact that there is no relation between the depth of the redness and the succeeding jaundice, as also the bile stained condition of the internal organs, suffices to negative it. Frerichs, Cruse, Birch-Hirschfeld, and many others, have propounded more or less ingenious hypotheses during recent years. Perhaps the simplest and most plausible explanation yet given of the jaundice is that of H. Quincke, who in a recent article (*Archiv für Experimentelle Pathologie und Pharmakologie*, xix, 1 and 2) maintains that the icterus is due to the continued patency of the ductus venosus. He points out that during foetal life the blood of the portal vein contains no bile pigment, or exceedingly little, inasmuch as no digestion takes place, and hardly any bile enters the intestine. After birth a striking change ensues; as digestion commences, bile is poured in large quantities into the small intestine, a small amount is absorbed by the portal vein, conveyed to the liver where it is separated from the portal blood and re-enters the bile duct. Should, however, there be a delay in the closure of the ductus venosus, a certain portion of the portal blood containing bile enters the general circulation through the open duct, and gives rise to a more or less intense jaundice, which disappears on the obliteration or contraction of the duct. Other conditions are cited which favour jaundice in the newly born, viz., (1) the destruction of the foetal red corpuscles, which is said to take place after birth, supplies much material for the manufacture of bile pigment; (2) the epithelium of the infant's kidneys does not as readily as that of adults excrete bile-pigment, as evidenced by the bile-pigment deposited in the epithelium in cases of jaundice, and its absence or existence only in small quantities in the urine; (3) bilirubin does not so readily change into urobilin in the intestines of infants as in that of adults, as evidenced by their golden yellow stools.

It is certainly curious that so simple an explanation should have been overlooked by previous writers, and one that has the merit of

fitting in fairly well with facts. Thus, if this view is true, it would explain why immature and weakly children should be more liable to jaundice than the full time and strong infants, inasmuch as in the former the duct would be larger at birth and continue open for a longer period. In cases also where there was atelectasis and obstruction through the lungs, and consequent stasis on the right side of the heart, producing passive congestion of the liver, the blood of the portal vein would more readily pass direct into the inferior vena cava through the open duct than pass through the capillaries of the liver. As far as I know, but few observations have been made to test this hypothesis by post-mortem examination. In one case observed by myself (recorded in the Medical Chronicle,) where jaundice made its appearance on the second day and the infant died on the eleventh, the ductus venosus was open and admitted easily an ordinary director. Examinations, however, are also wanted in cases dying within a few days or week of birth without any jaundice, to see if the duct is patent or not. In this way there ought to be no difficulty in quickly disproving or confirming the latest hypothesis on this interesting form of jaundice.—*Medical Times and Gazette*, April 25, 1885, p. 544.

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## 28.—POSTURAL METHOD OF TREATING DILATATION OF THE STOMACH.

By PETER TYTLER, M.D., Surgeon to the Ardwick and Ancoats Hospital, Manchester.

A recent case, in which I had recourse to the above method of treatment, may perhaps be of interest. The patient had for some months suffered from debility and lowness of spirits, with loss of appetite, uneasy sensations in the epigastrium, and occasionally obscure pains in various joints. Prior to this, she had been in robust health, with excessive appetite, and used to amuse her friends by exciting splashing sounds in her stomach. When she came under notice, she vomited, every second or third day, semi-fluid brown yeasty matter. By applying a hand to either side of the abdomen, succussion-sounds could be easily elicited. After trying various remedies, such as rhubarb and soda, &c., with only temporary benefit, I suggested washing out the stomach with a siphon-tube. As both the patient and her relations were not agreeable to this, I resolved to try the effect of posture in relieving the stomach. I made the patient lie on her back on the sofa for two hours after every meal, with a small pillow placed between her buttocks, and restricted the diet to fluids (milk and beef-tea). The effect of the first application of this posture was to cause vomiting almost immediately. However, I insisted on pursuing the treatment; and the vomiting soon ceased, and she began to feel better and less uncomfortable about the epigastrium. A tonic of iron



and strychnine was given three times a day. After a little while, she was persuaded to go out, after applying a tight binder to the stomach, but still to keep on for some hours the postural treatment after eating. In the course of a few months, the patient had regained her old energy and spirits, but was advised to be still careful with her diet, especially as to quantity.

The *rationale* of this procedure is obvious. Owing to the relaxed and flabby condition of the walls of the over-distended stomach, the food comes to hang below the level of the pylorus in the flaccid sac, incapable of emptying itself in the ordinary postures of the body. By elevating the lower end of the abdomen, the contents of the stomach are brought on a level with the pylorus, and thus put in a position to pass on in the natural way. —*British Med. Journal*, May 23, 1885, p. 1041.

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## 29.—ON THE REMEDIES FOR TAPEWORM.

By JAMES TYSON, M.D., Professor of General Pathology in the University of Pennsylvania.

In order that a tapeworm may be successfully treated, it is necessary that it shall have a certain size; so that, if a large part of the worm has been brought away by medicine, it is useless to give anything more until the remaining part increases sufficiently in size.

There are half a dozen remedies for tapeworm, and they are all good. I think that the two best are probably the ethereal extract of male fern and kooso. Some prefer the first of these, while others prefer the second. In my hands, kooso has been decidedly the most efficient—that is, having failed with everything else and having succeeded with kooso, it has naturally become the remedy with which I always begin the treatment. It is the dried flowers and immature fruit of the *Brayera anthelmintica*, a tree native to Abyssinia. It is given in the form of a powder, and the only objection to it is its bulkiness. The dose is laid down as a half to one ounce of the powder in half a pint of water. I prefer to give the larger dose, for it is harmless, except in pregnancy, and I am sure that failures are often due to the smallness of the dose administered. Kooso is said to have produced miscarriage; therefore, it should not be given to pregnant women.

Patients require some preparation before any remedy is employed. I always tell them to eat nothing from noon of one day until the next morning, when one ounce of kooso in half a pint of water is directed to be taken. If at the end of six hours no movement of the bowels has taken place, a promptly acting aperient, as a dose of oil, compound jalap powder, or elaterium, is taken, but generally kooso requires no purgative after it. This usually brings away the worm entire. Of course, you are never certain that you have the entire worm until you find the head. At the same time, it does

not follow because the head cannot be found, that you have failed to remove it, for it is very small, and may have been lost in the discharges. As I have said, in the *tænia solium* the head is about the size of a small pin's head; in the *mediocanellata*, it is somewhat larger, and in the *bothriocephalus latus* it is still larger. If the head has not been removed, you may be certain that in a certain length of time the worm will grow out again. This varies from ten to sixteen weeks.

Instead of *kooso*, the resin which it contains, called *koosin*, may be given; but I have had no experience with it. The dose is 20 to 40 grains enclosed in a wafer.

The next remedy in efficiency is the ethereal extract of the rhizome of *Aspidium filix mas*, whose active principle—an oleo-resin—is extracted by ether. The preparation of the patient is about the same as for *kooso*. The dose is half a fluid drachm to a drachm. The larger dose should be given. It is a dark, thick liquid, bitter, slightly acrid, and nauseous. Instead of the ethereal extract of male fern, the oil may be given in a gelatine capsule, which is the best vehicle for these unpleasant oils. Six or eight hours later, a dose of purgative medicine should be administered. An important point to be borne in mind, is the varying quality of these drugs, and that they deteriorate with age.

The next remedy in order of efficiency is the bark or the root of the pomegranate. This has been given in the shape of a decoction, about two ounces to the pint, and the dose is a pint. Recently, there has been introduced an alkaloid obtained from pomegranate, named *pelletierine*, in honour of the chemist, Pelletier. This is sold in a single dose, the price of which is, I believe, three dollars. When first introduced, it was vaunted as a "sure cure;" but the experience of practitioners in this city has not been uniform, and success has been by no means invariable. Very recently, however, I have known a case to have been successfully treated with *pelletierine* after all else had failed, including large doses of turpentine, and including *pelletierine* itself. When successfully used, the dose of *pelletierine* was given after twenty-four hours' fasting and no preliminary purgation. In fifteen minutes afterwards, one drachm of compound jalap powder was taken. In an hour and fifteen minutes, the entire worm, including the head, was passed. When *pelletierine* was unsuccessfully used, it was preceded by a day and a half fasting, during which two doses of castor oil were taken.

*Kamala*, the hairs of the *Rottlera tinctoria*, is said to be very efficient in tapeworm, but I have had no experience with it. It is given in doses of from one to two drachms suspended in syrup, repeated in eight or ten hours if it do not purge. It is purgative, sometimes drastically so. It may also cause nausea and vomiting.

Another remedy, which is an excellent one in this affection, is oil of turpentine. At the same time, it is apt to produce such unplea-



sant symptoms that it would be the last which I should use. The dose is from an ounce to two ounces mixed with twice that amount of castor oil.

The last remedy which I shall mention is pumpkin seed. This was used very commonly some twenty years ago. It was the remedy which I always used until frequent failures induced me to give it up. There are two ways in which it may be given. Two ounces of the seeds may be crushed in a mortar with water, then strained, and the emulsion taken fasting, the patient having dieted the previous day. A few hours later, a brisk purge should be taken. Or the seeds may be made into an electuary, which is almost as pleasant as sugar candy, and often is about as effectual.

I should place these different remedies in the order of their efficiency as follows: kooso, male fern, pomegranate and pelletierine, kamala, turpentine, and, lastly, pumpkin-seed. I am inclined, however, to give pelletierine an early trial, in consequence of its recent successful use in the manner referred to.

I have already stated that it is important to know the variety of worm present for the purposes of prognosis and treatment. The easiest of these worms to dislodge is the *bothriocephalus latus*, because it has neither the hooklets nor the rostellum of the other varieties. The next in ease of removal is the *tænia mediocanellata*, which, although it has the four suckers, lacks the hooklets, which give the *tænia solium* its firm anchorage. Of all the forms of tapeworm, the most difficult to dislodge is, therefore, the *tænia solium*; for it not only has the four suckers, but also the double row of hooklets. I believe, however, that if a more active course of treatment than is usually recommended be pursued, our efforts will be more successful.—*Philadelphia Medical News*, March 7, 1885, p. 255.

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### 30.—ON THE EFFECTS OF SPIRITS, WINES, TEA, AND COFFEE, ON DIGESTION.

By WILLIAM ROBERTS, M.D., F.R.C.P., F.R.S., Consulting Physician to the Manchester Royal Infirmary.

The distilled spirits—brandy, whisky, and gin—were found to have but a trifling retarding effect on the digestive processes, whether salivary or peptic, in the proportions in which they are commonly used dietetically. Their obstructive effects only became apparent when used in quantities which approached intemperance. Taking this in conjunction with the stimulating action which they exercise on the glands which secrete the digestive juices, and on the muscular activity of the stomach, their effect in these moderate dietetic proportions must be regarded as distinctly promotive of digestion.

Wines and malt liquors exhibited an action differing considerably from that of ardent spirits. Wines were found to be highly inimical to salivary digestion. Even very small quantities of sherry, claret, hock, or champagne, inhibited the action of saliva on starch to a very high degree. This is due to the considerable acidity which all wines possess. When this acidity was neutralised by the addition of an alkali, the inhibitory effect of wines on starch-digestion was entirely removed. It is a common practice, as you know, to mix wines—especially sherry, claret, and hock—with soda, seltzer, or some other effervescent table-water. These waters all contain a charge of alkaline carbonate, and it was found that, when wines were thus mixed, they ceased to embarrass salivary action. This practice may, therefore, be looked on as highly commendable in the case of persons of weak digestion.

On peptic digestion, wines exhibited a retarding effect altogether out of proportion to the alcohol contained in them. Both the stronger and the lighter wines, except in very moderate proportions, checked the speed of peptic digestion. In the customary dietetic use of wines with meals there is, probably, a double action; on the one hand, a stimulating action on the secretion of gastric juice, and on the muscular contractions of the stomach; and, on the other hand, a retarding effect on the speed of the chemical process. In the case of persons of weak digestion, wines should be taken sparingly, and the quantity so adjusted as to bring out their stimulating action without provoking the retarding effects which follow their more liberal use. Champagne was found to have a distinctly less retarding power than an equal volume of claret or hock. This I judged to be solely due to the mechanical effects of the effervescence and liberation of gas, whereby a more efficient stirring up of the digesting mass would be effectuated. Effervescent wines, therefore—other things being equal—favour the speed of peptic digestion more than still wines.

The effects of tea, coffee, and cocoa exhibited some interesting diversity. It was found that tea had an intense inhibitory effect on salivary digestion; even in very minute proportion, it completely paralysed the action of saliva. On the other hand, coffee and cocoa had only a slight effect on salivary digestion. The inhibitory action of tea on saliva was found to be due to the large quantity of tannin contained in the tea-leaf. Some persons have supposed that by infusing tea for a very brief period—two or three minutes—the passage of tannin into the beverage could be avoided. This, however, is a delusion. Tannin is one of the most soluble substances known; it melts like sugar in hot water. One gentleman of my acquaintance, in his horror of tannin, was in the habit of preparing his tea by placing the dry leaves on a paper-filter, and simply pouring on the boiling water. In this way, he thought to evade the presence of tannin in his tea. But if you try the experi-



ment, and allow the product, as it runs through the filter, to fall into a solution of perchloride of iron, you will find that an intense inky-black coloration is produced, showing that tannin has come through in abundance. You can no more have tea without tannin than you can have wine without alcohol; and I found, experimentally, that tea infused for two minutes had almost exactly the same inhibitory effect on digestion as tea infused for twenty or thirty minutes. If you wish to mitigate the effects of tea on salivary digestion, you should direct the patient not to sip the beverage with the meal, but to eat first and drink afterwards. In this way, time is given for the saliva to perform its functions unhindered. Another device is to introduce a pinch of carbonate of soda into the tea-pot; this removes the deterrent effect of tea on salivary digestion; it is a practice occasionally followed in some households, under the idea that soda helps to extract the virtues of the tea-leaves. It was found that the addition of so small a proportion as one per cent. of the weight of the dry tea greatly mitigated its injurious effect on starch-digestion, and that twice this quantity almost entirely removed it. This latter proportion corresponds roughly to ten grains of bicarbonate of soda to an ounce of tea-leaf.

The effects of tea, coffee, and cocoa on peptic digestion were found to be as nearly as possible alike for infusions of equal strength. All three exercised a retarding effect, when their proportion in the digesting mixture rose above 20 per cent. These beverages should, therefore, be taken very moderately by persons of weak digestion. The good reputation of cocoa in regard to digestion seems to be wholly due to the fact that it is used in weaker infusions than tea and coffee. The directions for the preparation of this beverage, printed on the packets of cocoa sold in the shops, indicate a strength of about two per cent.; whereas a medium tea is usually made of a strength of four to five per cent., and a medium coffee of a strength of five to seven per cent. The strong coffee which it is customary to hand round after dinner must have a powerful retarding effect on gastric digestion; and, although this practice may be salutary to robust eaters, it is not to be recommended to those of feeble peptic power.—*British Medical Journal*, Aug. 1, 1885, p. 190.

### 31.—ON MILK AS AN ARTICLE OF DIET FOR THE SICK.

By WILLIAM ROBERTS, M.D., &c., Manchester.

By far the most serviceable liquid food we possess is milk. Milk contains, in almost equal proportions, proteid, saccharine, and fatty matter, and is capable alone, as we know, of sustaining life. All plans of feeding the sick on liquid food centre round milk. It can be given alone, or mixed with tea, coffee, or cocoa, or with lime-water, soda-water, ardent spirits, or with farinaceous gruels of

various sorts, or as buttermilk, koumiss, or whey. Were it not for the necessity of change and variety, we should, in a large number of cases, want nothing but milk. It should, however, be remembered that milk is by no means a perfect kind of liquid food. In the course of its digestion, both in the stomach and in the intestine, milk, or rather the casein contained in it, is coagulated into solid masses, and these masses have to be redissolved before they can be absorbed. Not unfrequently, if milk be given too freely, these curdy masses fail of being dissolved; and they pass down the intestine more or less unchanged, and are ultimately discharged with the stools. In this way milk may become an objectionable form of liquid food; these curds may block up a narrowed part of the intestine, or they may undergo putrefactive changes, and thereby irritate the tender or ulcerated mucous membrane. This drawback to the use of milk may be obviated by predigesting or peptonising it, which is easily accomplished at a warm temperature by means of pancreatic extracts. The bitter flavour of peptonised milk is, however, nauseous to many invalids, and you cannot fully peptonise milk without developing this unpleasant flavour. One of the best means of covering the taste of peptonised milk is to add coffee to it. Another device, which may sometimes be adopted with advantage, is to add the pancreatic extract to cold or iced milk. In the cold, the action of the ferment is comparatively slow, and it takes some hours to produce an appreciable change of flavour. But as soon as milk, thus charged with the ferment, is swallowed and passes into the warm atmosphere of the stomach, it is rapidly digested. I have seen, in cases of typhoid fever, when undigested curds of milk were observed to be coming away with the stools, this plan followed by the immediate disappearance of these masses from the motions. But the palates of invalids are sometimes abnormally sensitive, and they detect, and resent, the mere presence of the ordinary pancreatic preparations in articles of food, quite apart from the digestive changes produced by them. Recently, Mr. Benger has placed at my disposal a pancreatic preparation which is absolutely free from taste and smell. This preparation, of which I have here a specimen, consists of the pancreatic enzymes in a highly purified state, under the form of a light, nearly white, powder. It is not hygroscopic, and may be kept unchanged for an indefinite period fully exposed to the air. This beautiful preparation is excessively active, and no palate can detect its presence in milk or other article of food until its effects are revealed in the process of digestion. I am inclined to think that it will prove a valuable addition to our resources when it is considered desirable to subject food to a process of pre-digestion, and still more when it is desired to add the ferment to the food in the cold state, with a view to promoting its rapid digestion after being swallowed.



[We append to these remarks upon milk others upon fortified gruels, both from Dr. Roberts' able address "On Feeding the Sick" at the late meeting of the British Medical Association.]

*Fortified gruels.*—A very important kind of liquid food is furnished by gruels made with the several kinds of cereal or leguminous seeds. Gruels are not by themselves an agreeable kind of food; they lack flavour; but, mixed with milk or beef-tea, they constitute a valuable addition to our resources in feeding the seriously sick. When prepared from the cereal flours in the usual way, they can only be made of feeble nutritive power, if their liquid character is to be preserved. These flours are very rich in starch, and gruels made from them become thick and pasty if the proportion of flour used in their preparation rise to four or five per cent., and a gruel of this strength does not contain more than one-half per cent. of proteid matter. But, if the meal be mixed beforehand with one-eighth of its weight of ground malt, you can prepare from these flours gruels of much higher nutritive value, and still preserve their liquid character. The diastase of the malt acts upon the thickening starch as the heat rises, and converts it into soluble starch and dextrine. These fortified gruels can be made with as much as 20 per cent. of meal, and still maintain the fluid state. Such gruels contain about two per cent. of proteid matter, and about 14 per cent. of carbo-hydrates, and are admirably adapted, combined with milk or beef-tea, to supply a varied kind of liquid food of highly nutritious character. Mixtures of this class seem especially suited for the nourishment of cases of typhoid fever.

A matter of interest, in designing food for the sick-room and nursery, is the consideration of the special properties of the several kinds of cereal and leguminous substances used as food. In point of chemical composition, the several kinds of cereal grains are closely allied; still, there are differences between them, and these differences may be of importance. The proteid of wheat is not quite identical with that of oats or barley. On the other hand, leguminous seeds differ importantly in composition from the cereal grains. Taking the lentil as a type of the leguminous group, it is to be observed that lentil-flour contains twice as much proteid matter as wheat or oat flour, and almost twice as much lime. Moreover, the proteid of the leguminous seeds differs materially from that of wheat or oats. These differences are probably of not a little importance in feeding the sick and the young; and, if we had more knowledge and experience in their use, we could, perhaps, utilise with advantage these several cereal and leguminous products, and combine them in various ways to meet the indications and necessities of different cases.—*British Medical Journal*, Aug. 1, 1885, p. 190.

## DISEASES OF THE URINARY ORGANS.

## 32.—ON THE CLINICAL STUDY OF THE LIVER VIEWED THROUGH THE URINE.

By GEORGE OLIVER, M.D.Lond., Harrogate.

The study of the urinary aspect of diseases of the liver is so large, and withal so full of clinical interest, that he who has mastered it merely in outline cannot well do it justice without devoting a series of papers to the elucidation of it. I, therefore, cannot hope to do more on this occasion and at our next meeting than to provide a sketch of one department—namely, the clinical significance of the colourless central components of the bile in the urine. In this communication I will confine myself to a consideration of the tests which enable us to detect the presence of the biliary salts in the urine, leaving over for the next meeting an outline of the physiological and clinical aspects of the subject.

*The urinary derivatives of the biliary salts.*—The salts of the bile acids, as they exist in the bile, are taurocholate and glycocholate of sodium, the former greatly predominating. These biliary constituents are not altogether eliminated by the kidneys in the chemical forms in which they are secreted by the liver. When they reach the intestines, they are split up into taurin and glycin on the one hand, and cholate of sodium on the other. The cholate is mainly re-absorbed by the bowels, a small portion only being excreted in the fæces; while the rest is returned to the liver by the portal blood, and is, at least in part, eventually discharged in the urine. The bile salts, as they appear in the urine, therefore, in all probability, consist of the liver-secreted salts—taurocholate and glycocholate, and of the derived salt—cholate.

*The clinical tests hitherto employed for detecting bile salts in the urine are unsatisfactory.*—All the works on physiology and on urine refer to Pettenkofer's test—sulphuric acid and cane sugar—or some modification of it, as the only clinical means by which bile acids are to be detected in the urine. However satisfactory this test may have proved itself in the hands of chemists, who have applied it to solutions of the bile acids extracted from the urine, it cannot, I am fully persuaded, claim an analogous position as a mode of direct testing, such as the practitioner requires, for my experience of it as a clinical test has been most disappointing. In delicacy it falls very far short of the clinical needs of the practitioner, and in reacting with other substances besides the bile derivatives—e.g., albumen and other organic bodies—it is apt to mislead the observer. I can therefore, endorse Dr. Tyson's remarks on this point: "From a perusal of almost all the text-books on physiology, and even of numerous manuals on the examination of the urine, the student is led to suppose that the detection of bile acids, if present in the



urine, by means of what is called Pettenkofer's test, is one of the easiest possible. On the other hand, nothing is farther from the truth, and the fact is that *such detection by the direct application of the elements of Pettenkofer's test to urine, or any other animal fluid, is practically impossible, even if the bile acids are present in considerable amount.* Nor have any of the modifications of Pettenkofer's test, recently announced as clinically available, proved such in my hands, even where the elements of bile have been added to the urine, except where inspissated ox-bile has been used." The italics are Dr. Tyson's. I am disposed to conclude from my observations that Pettenkofer's test does not react directly with the liver-secreted salts, taurocholate and glycocholate, but only so with the derived salt, cholate. Hence, it does not indicate the presence of the biliary salts in fresh ox-bile until it has had time to decompose them, and thus to liberate cholic acid; but it reacts at once, and very decisively, after the bile has been boiled for several hours with caustic potash, a procedure that breaks up the liver-secreted salts, and furnishes the derivate, cholate. This is doubtless the reason why Pettenkofer's test reacts with inspissated, though it fails to do so with fresh bile, for the taurocholate is readily decomposed by boiling only, and the extract is an evaporation product; and furthermore, why it rarely affords at once a distinctive reaction in jaundiced urines, which are highly charged with liver-secreted salts. The test for peptones recently introduced by Dr. Randolph, of Philadelphia, may likewise be employed for the direct testing of bile salts, and for this purpose it is delicate; but is, unfortunately, open to the objection that it reacts equally well with the merest trace of peptone—a constituent often present in small quantity in the urine of hepatic cases, and, moreover, generally in such traces as to be detected with difficulty, and, therefore, cannot always be definitely excluded.

*The proposed test is founded on a physiological reaction.*—The test I employ for the direct detection of the bile salts in the urine is a purely physiological one, for it is based on a reaction which belongs to the bile itself as it flows into the intestines. When the products of gastric digestion—peptone and parapeptone—which leave the stomach in a state of acid solution, meet with the bile, they are precipitated, as a tenacious layer, all over the villi of the lining membrane of the duodenum.

*A solution of the bile salts precipitates acidulated albuminous urine or urine charged with peptone.*—The same physiological fact is illustrated outside the body, by acidulating—by means of citric or acetic acid—albuminous urine, or urine charged with peptone, and treating it with a solution of the bile salts, or by ox-bile freed from pigment, mucin, and fat, when the proteid is precipitated. I take a sample of albuminous urine, acidulate it with a citric test paper, and add a few drops of a solution of the biliary salts, and

a voluminous white precipitate is observed, just as if I had thrown down the albumen by ferrocyanide of potassium, or by potassio-mercuric iodide. But though like other precipitates of albumen in failing to dissolve when heated, when the bile salts have not been added in excess, it differs from them in this—in vanishing on the addition of acetic acid. This precipitation of albuminous matter from an acid solution is induced not only by the bile salts, taurocholate, and glycocholate, but also by their derivative, cholate of sodium.

*Why not employ an acidulated solution of a proteid in order to detect the presence of bile salts, or the derivative of them, in the urine?*—Hence, as this reaction is a thorough-going and decisive one, why not utilise it as a means of discovering the colourless bile derivatives that may overflow into the urine? For if these biliary constituents are present, in however small a quantity, they will surely precipitate an acidified solution of a proteid—resembling, in fact, the chyme—when brought into contact with the urine. Experiment and clinical observation have proved such to be the fact.

*Acidification is a necessary condition of the reaction.*—I add a solution of the bile salts to albuminous urine, and the mixture is seen to be clear, but on letting fall a few drops of acetic acid into it, the albumen at once falls out of solution, and on the further addition of the acid the precipitate dissolves. Then, again, I take equal parts of an albuminous and of a jaundiced urine, and the transparency of the mixed urines is unaffected; but on dropping in a citric test-paper, a cloud of precipitated albumen collects below, with, however, this peculiarity—the coagulated albumen forms a zone just above the bottom of the tube, where, indeed, the urine remains clear, because the large amount of acid concentrated at this part prevents the precipitate from appearing there. In this case the bile salts present in the jaundiced urine precipitate the albumen, as in the preceding observation, the citric acid merely performing the same duty as when employed in mercuric or ferrocyanic test for albumen. About twelve months ago, I encountered a fact in urine-testing which at that time I could not explain, nor could I derive light either from books or from my friends: the same patient, on different days, provided me with various samples of albuminous urine, which were divisible by the action of citric or acetic acid into two classes—one set precipitating freely with the acid, the precipitate insoluble with heat, and the filtrate albumen-free; and the other set unaffected by the vegetable acid. I carbolised a good example of each kind, and set it aside, believing that the explanation would be forthcoming some day or other. On now re-examining these specimens, I find the one that precipitates albumen by the organic acid contains a large quantity of bile salts; while the other has none—or merely a little more than the trace that belongs to normal urine. The precipitant of the



albumen was therefore in this case also the bile salts, which remained inoperative until the vegetable acid was added.

I have lately met with several urines of normal reaction, containing albumen and bile salts, in which the proteid was precipitated by merely adding an organic acid. I show you two examples. This dark urine is a jaundiced urine containing albumen; you see how freely the proteid falls on merely dropping into it acetic acid. And this is a specimen containing an excess of bile salts, but no biliary pigment, along with albumen; and you will note in the course of a few minutes that a citric test-paper produces the characteristic zone-like precipitate, leaving the lowest part quite clear. When the precipitate induced by the organic acid is collected, washed on the filter, and dissolved in an acid (such as acetic or hydrochloric), the albumen is freely precipitated afresh by nitric acid, by the picric acid solution, and by other precipitants of albumen, so that it is albumen and nothing but albumen.

*Acidified albuminous urine is a test for bile salts in the urine.*—I run this diluted albuminous urine, acidified by acetic acid, over a jaundiced urine, and along the plane of contact of the urines a sharply defined white band or zone of precipitated albumen will be noted, a reaction which is indeed very striking and decisive.—*Lancet*, April 18, 1885, p. 700.

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### 33.—ON BLOOD IN THE URINE IN GRANULAR KIDNEY.

By SAMUEL WEST, M.D., F.R.C.P., Physician to the Royal Free Hospital, and to the Chest Hospital, &c., London.

Blood in the urine in granular kidney is not, I believe, of very common occurrence, and may on that account lead to difficulties of diagnosis. It may be in sufficient quantity to give the urine a bright red colour, or, as is less rare, a smoky or pinkish hue.

I have seen several cases in which the diagnosis of granular kidney seemed clear, and during the course of which the urine on many occasions contained blood, sometimes only sufficient to give to it the smoky tint for a few days, but at others sufficient to make it bright-red in colour. It is not easy to determine the part of the urinary tract from which the hemorrhage comes. In the second and third cases it was, in all probability, from the kidney; but in the first the very bright colour and quantity of the blood seemed to suggest its origin from the lower part of the urinary tract. The quantity in this case was so large as to suggest even calculus, but none was present. The difficulty in diagnosis between this condition and calculus has actually occurred, as in a case related to me by Dr. Sharkey of St. Thomas's Hospital. The patient, a young girl, passed so much blood with the urine that the bladder was sounded, and, failing to find a stone, dilatation of the urethra and digital exploration of the bladder was suggested. To this Dr.

Sharkey did not, for good reasons, consent; and the patient dying, no stone was discovered on the autopsy, but markedly granular kidneys.

In less severe forms the chief difficulty in diagnosis is from cases of acute nephritis. Two patients had, during the latter part of their illness, a considerable amount of albumen in the urine, and as on most occasions the urine was smoky and not often bright-pink in colour, and also contained a few casts, the diagnosis of acute nephritis was natural, but they presented these points of difference from ordinary acute nephritis: (1) the absence in one case and the existing small amount in the other of general œdema; (2) the great fluctuation in the amount of blood and albumen at different times; (3) the subsequent course of the cases, the diagnosis of granular kidney becoming clear as they progressed.

The hemorrhage which takes place from some part of the urinary tract in these cases of granular kidney, though uncommon, is not peculiar, except so far as regards its source. The explanation is probably the same as must be given to the hemorrhage which occurs from other parts in this disease.

Epistaxis, often very severe and difficult to control, is one of the commoner epiphenomena. The first case suffered severely from it on several occasions, and once at the same time that the urine also contained blood. Of hemorrhage from the respiratory tract in granular kidney I know nothing; but bleeding occurs occasionally from the bowels. The first symptom of illness in the second case was such a hemorrhage from the bowels, which confined the patient for five weeks to bed; and although the cause of this hemorrhage is not certain, its association is at any rate suggestive.

Hemorrhage into the eye and brain are amongst the commonest of incidents in the course of granular kidney, so much so that retinal hemorrhages are of recognised diagnostic value, while brain hemorrhages explain the apoplexy with which such cases not rarely terminate, and in both organs miliary aneurisms are frequently found. In the cases in which the hemorrhage occurs actually in the kidney it is possible that there is another explanation. It may prove to take place especially in those cases of granular kidney in which the cirrhotic change is most marked round the Malpighian bodies, and the bleeding may then possibly be the result of the mechanical obstruction to the circulation in the Malpighian tufts. But I know of no observations bearing on this point. On the whole, however, we may with greater probability regard the hemorrhage from the urinary tract as part of the general vascular changes which occur in this disease, and, if so, it is remarkable that hæmaturia is not of more frequent occurrence in granular kidney than it appears to be.—*Lancet*, July 18, 1885, p. 104.



## 34.—ON A CASE OF ACUTE HYDROCELE: PLEURISY AND PERICARDITIS.

By C. J. BOND, F.R.C.S., House-Surgeon, Leicester Infirmary.

[The following case is one of great interest. There can be no doubt that the septic organisms actually found were the cause of the various inflammations, but how did these organisms get access to the body?]

George W——, aged sixty-five, a hedge-cutter, first felt sharp pain in the right tunica vaginalis five days before admission; this was followed in a few hours by rapid swelling, so sudden indeed that the patient thought he was ruptured. Two days later he complained of pain in his chest, with some shortness of breath, and gave up work. On his admission, three days later, there were loud friction-sounds over both sides of the chest, with signs of consolidation of the lower part of the left lung. The right tunica vaginalis was distended with fluid, and very tender. No enlargement of the testicle could be detected. The patient died three days later from the pneumonia and rapid pericarditis.

At the autopsy both pleuræ were found covered with thick layers of recent lymph, but containing very little fluid. The left lung showed consolidation of the lower lobe in the stage of red, passing in parts into that of grey, hepatisation. The pericardium contained two ounces of semi-turbid serum, and both surfaces were covered with recent lymph. The right tunica vaginalis contained about two ounces of clear serum, and the surfaces were coated with a layer of recent lymph, a quarter of an inch thick, and having the same naked-eye characters as that on the pleuræ—tough, white, and adherent. The testicle itself was neither swollen nor altered in colour or consistence, and the cord appeared normal. The other organs were healthy, as were also the serous membranes of the peritoneum and arachnoid, and the synovial membranes.

In this case a healthy man (his only previous illness had been an attack of rheumatism one year previously) suddenly suffered, without any blow, inflammation of the testicle, or apparent exciting cause, from a rapid and acute inflammation of the right tunica vaginalis. In forty-eight hours the pleuræ had commenced to take on inflammation of a like nature, and in eight days from the onset of the symptoms the man died from acute pericarditis. No record can be found of inflammation of the tunica vaginalis arising thus in cases of this kind; neither Bransby Cooper, Velpeau, nor Syme mention it in their comprehensive lectures on the subject in the years 1852, 1854, and 1855; so that it would seem to be a rare complication, and the etiology and exact pathology of the hydrocele in this case seems obscure. We are of course familiar with the ordinary hydroceles of children and adults, with the hydrocele arising after inflammation or disease of the testis called by Velpeau

acute, but really secondary, and the cases of hydrocele following injury without the testicular implication. But in this case there was a general inflammation of the serous membranes of the body, and in this inflammation the tunica vaginalis takes part. The naked-eye characters, too, of the products of the inflammation, the thick white lymph, and the scanty, almost clear, fluid are alike. Moreover, the somewhat large round organisms described by Friedländer as characteristic of pneumonia were found not only in the pneumonic lung, but also in the pleural fluid, and, what is noteworthy, in that of the hydrocele. Are we, then, to regard the inflammation of the tunica vaginalis as a part of the general inflammation having a common cause with it, a view rendered probable by the absence of any other cause, by similarity of appearance, and the presence of the organisms? If so, in what relation does the pneumonia stand to this inflammation? Was it really the primary affection, and the others secondary, due to an escape, as it were, of the organism? But, supposing this view of the hydrocele to be correct, is it not strange that, with so many cases of pleurisy, the tunica vaginalis is so rarely, in fact never, affected? It might be supposed that the man was suffering from some form of septic poisoning, and that the hydrocele was really a secondary process or pyæmic abscess; but this is unlikely, because there were no symptoms of septicæmia, the temperature was the continuously high temperature of pneumonia, there were no rigors, and especially because the fluid in all the cavities was clear serum, and the lymph white and tough, quite unlike the appearance of any septically-inflamed serous membrane or pyæmic abscess.—*Lancet*, April 25, 1885, p. 748.

### 35.—ON FERROCYANIC TEST PELLETS FOR ALBUMEN.

By F. W. PAVY, M.D., F.R.S., London.

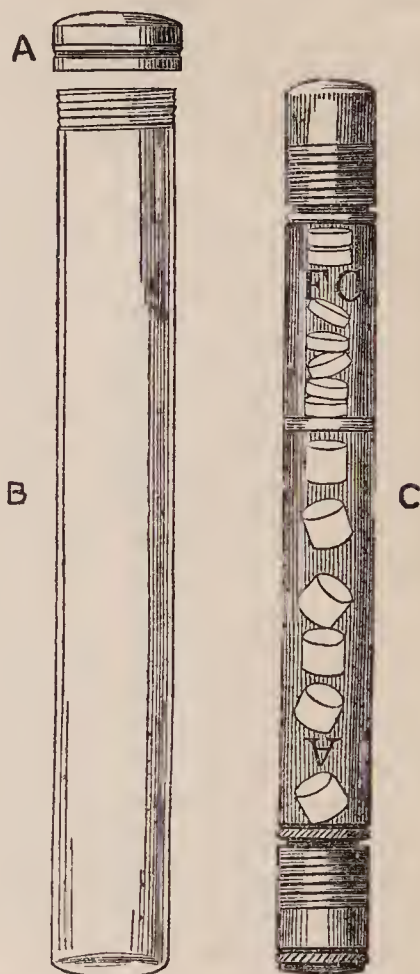
These pellets afford a ready, portable, reliable, and delicate clinical test for albumen. They require no spirit lamp to be employed and supply information which can be accepted without needing the application of any other test for correction or corroboration. When albumen is present it does not fail to be indicated by the production of a precipitate; and, on the other hand, when a precipitate is produced, albumen, as far as I yet know, is the only principle that occurs in the urine to occasion it. With these qualities the ferrocyanic test commends itself as specially adapted for general use in medical practice.

The woodcut shows the portable character of what is needed for the application of the test. The whole appliance can be carried in the pocket like a pencil case, which it only to a trifling extent exceeds in size. There is a celluloid tube (c) for holding the pellets, and this fits into a glass tube (B), which is employed as the



test tube. No heat being required for the application of the test permits the glass tube to be made of sufficient thickness to be carried in the pocket without danger of breaking. The celluloid tube has a partition inside to keep the acid and ferrocyanide pellets separate, and at either end there is a screw top. The glass tube is provided with a metal cap (A), which screws on and closes it. Messrs. Maw, Son, and Thompson, of Aldersgate-street, make the apparatus.

Under the form of acetic acid and ferrocyanide of potassium, the ferrocyanic test has for a long time been favourably regarded as a delicate test for albumen. Senator, in his recently published monograph on albuminuria, in referring to the drawbacks belonging to heat and nitric acid, speaks thus of the test:—"As, however, notwithstanding these drawbacks, the test in question [heat and nitric or acetic acid] is the only one in common use, it will not be superfluous to give a brief account of far more reliable tests which should be used in doubtful cases, or I would rather say, in all cases in future. These are as follows: (1) To acidify the urine with acetic acid and then add carefully a (concentrated) solution of ferrocyanide of potassium, according to Hofmeister the most delicate of all the tests for albumen, and which precipitates all the albuminous bodies, but not peptone." To adapt the ferrocyanic test conveniently for clinical use, it occurred to me to follow what I had already done as regards the cupric test for sugar, and bring it into the pellet form. At first I placed the acid (citric) and ferrocyanide in the same pellet, and these pellets were introduced to the notice of the profession at the Clinical Society in the early part of 1883. Subsequently, for reasons that presented themselves as experience was gained with the employment of the test, the agents were placed in separate pellets, and it is in this form that I now recommend it. As the pellets are devoid of any foreign principle whatever, there is nothing to undergo deterioration by keeping. Citric acid is just as eligible for the purpose required as acetic acid. Enough is supplied in the pellet to secure



the presence of free acid in any alkaline specimen of urine that is likely to be come across, provided the quantity mentioned in the instructions for the application of the test is taken. Should any doubt exist, two pellets can be used in place of one. The ferrocyanide pellet consists of the sodium instead of the potassium salt, on account of its yielding a looser and more speedily soluble product. The pellets are made by Mr. Cooper, of 66, Oxford-street.

In using the test about a drachm of urine is taken as the quantity to be employed. An acid pellet is dropped into it, and with a little agitation is found to be quickly dissolved. One of the ferrocyanide pellets is next dropped in, and the urine again shaken to facilitate solution. If albumen is present, a precipitate immediately appears.

It is necessary that the test should be used in the manner which has been mentioned—that is, the acid pellet must be first dropped in and dissolved, and then the ferrocyanide pellet added. The latter pellet it is which supplies the information required, and if a precipitate is by this pellet produced, the conclusion may be drawn that albumen is present, for the test does not precipitate peptones or other principles incidentally present in the urine. For sensitiveness the ferrocyanic will bear comparison with any other albumen test; and should no precipitate be rendered visible, it may be safely inferred that no albumen is present. There is no need, therefore, for anything beyond the test itself being employed, and no spirit lamp being required, gives it a great advantage.

It occasionally happens that a precipitate is produced by the acid pellet alone, but no fallacy should arise from this. It is the ferrocyanide pellet which affords the evidence of the presence or absence of albumen. The acid pellet only supplies a preparatory condition to allow the ferrocyanide to act, and does not constitute the test. The usual source of the precipitate referred to is uric acid, and by diluting the urine with about an equal bulk of water, it is prevented from appearing. In this way the interference thus occasioned to the application of the test is removed. Mucin also is precipitated by an acid, and the best plan here is to take two test tubes and to treat the urine in one with the acid pellet alone, and in the other with both pellets. A comparison of the two will show whether albumen is present or not.

Should the urine be turbid from lithates, it may be cleared either by the application of moderate warmth, or, what may be more convenient, the addition of about an equal bulk of hot water.

A most portable little case is made by Jahncke, of Canonbury Works, Dorset Street, Essex Road, N., which contains the two kinds of pellets for albumen, the cupric test pellets for sugar, a spirit lamp, test tube, and urinometer. This gives all that is required for the ordinary examination of the urine, and makes an elegant, compact, and convenient little case.—*Lancet*, June 13.



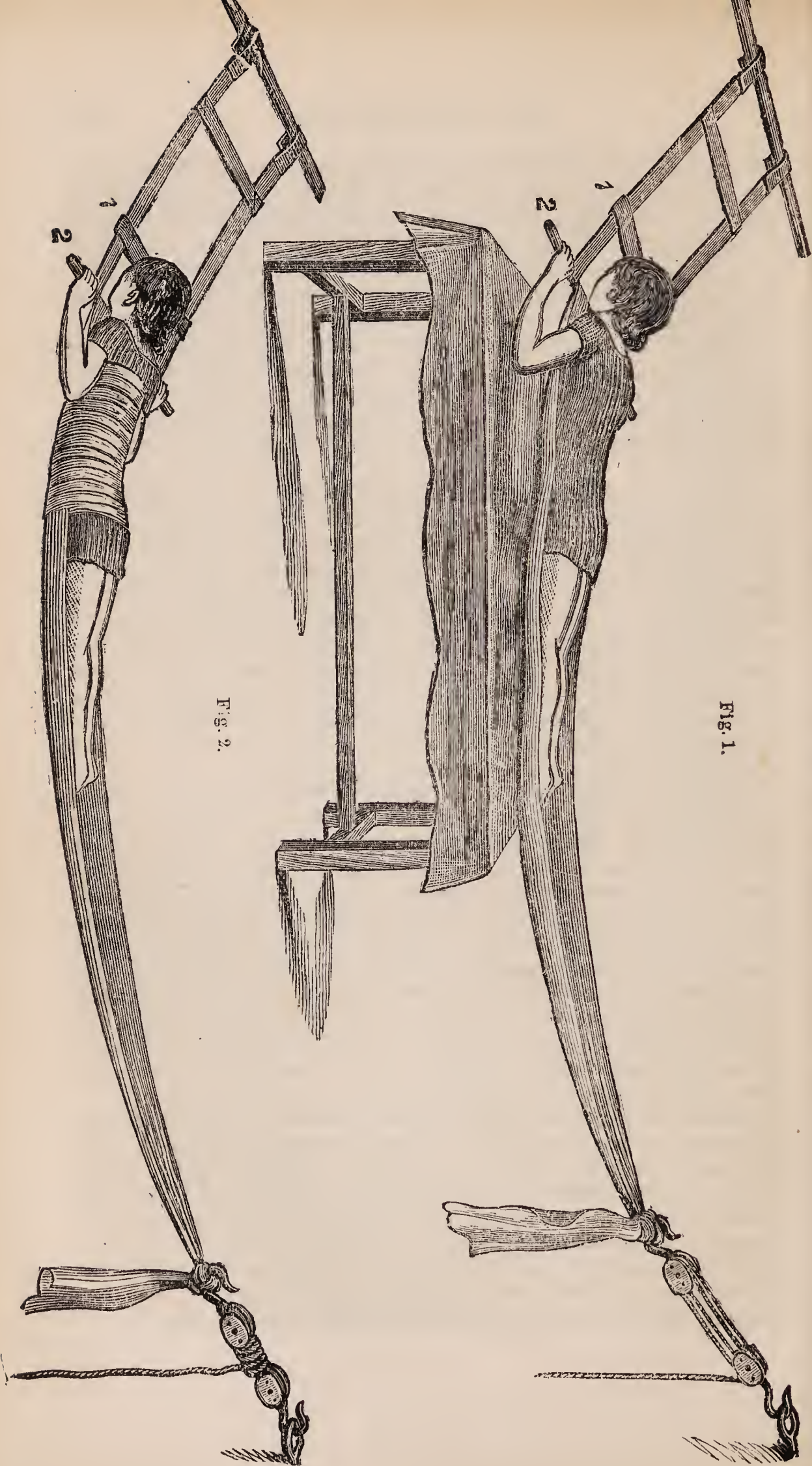


Fig. 1.

Fig. 2.

# SURGERY.

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## AMPUTATIONS, FRACTURES, DISLOCATIONS, AND DISEASES OF THE BONES, JOINTS, ETC.

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### 36.—ON THE USE OF HAMMOCK-SUSPENSION IN THE TREATMENT OF SPINAL DISEASE.

By RICHARD DAVY, M.B., F.R.S.E., Surgeon to the Orthopædic  
Department, Westminster Hospital.

In 1876, I utilised hammock-suspension of patients in applying the plaster-of-Paris jacket; and published my experiences, with illustrations, in *Surgical Lectures* (Smith, Elder, and Co., 1880). As you all know, I have never forsaken this plan, but can recommend it highly in private and hospital-practice; notably, in the cases of young children. Experience has shown, however, many improvements in this method of hammock-suspension. Allow me to demonstrate the steps of our present operation, and to introduce a case of curvature for plaster jacket application.

*First Stage.*—In Fig. 1, you will see the patient and hammock placed ready for suspension, on an ordinary table. The hammock is really nothing more or less than a long piece of towelling (exactly of the width of the patient's chest, from armpit to armpit), sewn at one end around a split ash rod or broom-stick (2); and tied firmly by a slip-knot to the hook of a set of compound pulleys at the other. Two leathern bands receive the split rod, and are hooked up to a fixed iron rod. The cross-band of leather (1) slides up and down the two leathern bands, so as to neatly and comfortably support the patient's forehead. The iron rod and pulley hook receiver are securely fixed in wood, according to circumstances, and the ingenuity of the surgeon. The cords of the pulley-blocks are slack, and the patient is placed either on the back or side, or front, according to discretion and variety of curvature. (See illustration on opposite page.)

One word on vests: I am much pleased with the vests knitted in this hospital by one of the sisters, or by patients under her charge; they are made of thick fleecy (Leviathan) wool, and cost about half-a-crown each; they are reliable against pressure (*vide* Fig. 3). The only dinner-pad I have ever used is the dinner itself.

*Second Stage.*—The cord is drawn on the blocks, and thus the patient's body is lifted off the table. Having fixed the cord firmly, let an assistant remove the table aside. The bandages having been adjusted without any undue hurry, matters have reached the



point illustrated in Fig. 2. The application of wet plaster bandages is not a clean process at any time. Let me advise you to have a big waterproof sheet on the floor to catch the splash; also to wear an apron with suitable sleeves. Rub your plaster in well; do not be above your trade. Your trouble will show itself in a strong and durable corset; and whatever is worth doing is worth doing well. From 12 to 20 bandages will be required; and, according to the temperature of the surrounding air and quality of plaster (always use the best), your patient will remain suspended from half an hour to one or two hours. The table may be placed underneath the patient's body, so soon as the surgeon has finished fixing the bandages; it gives a feeling of security to those who think it would be a long distance to fall from the hammock to the floor. The table does not touch the hammock. I may say with satisfaction that I have never encountered any accident or mishap in the many hundreds of cases which have been treated by this method. In weight, we have swung examples from one to 15 score pounds.

*Third Stage.*—An ordinary stretcher on poles, or the same hammock, may be used for conveying the patient to his bed, after the drying of the plaster. The knot tied in the pulley-cord is loosened, and the patient drops gently on the stretcher on the table. The hammock itself is then drawn through from between the vest and the plaster-bandages, and the patient's condition is well shown in Fig. 3. According to the set of the plaster, the withdrawal of the hammock is effected either on the same day, or on the morning following the operation. A spatula (18 inches long) is sometimes useful to separate any adhesion between the hammock and bandages; but, as a rule, the withdrawal of the hammock is very easy; once, as a demonstration only, I drew the hammock away by means of the pulleys. The towel-hammock now before you has been already used for over twenty cases of suspension. The shifting of the soiled vest for a clean one is easily effected; and frequently the plaster corset has been worn for twelve months with great advantage to the patient. —*British Medical Journal*, July 4, 1885, p. 8.

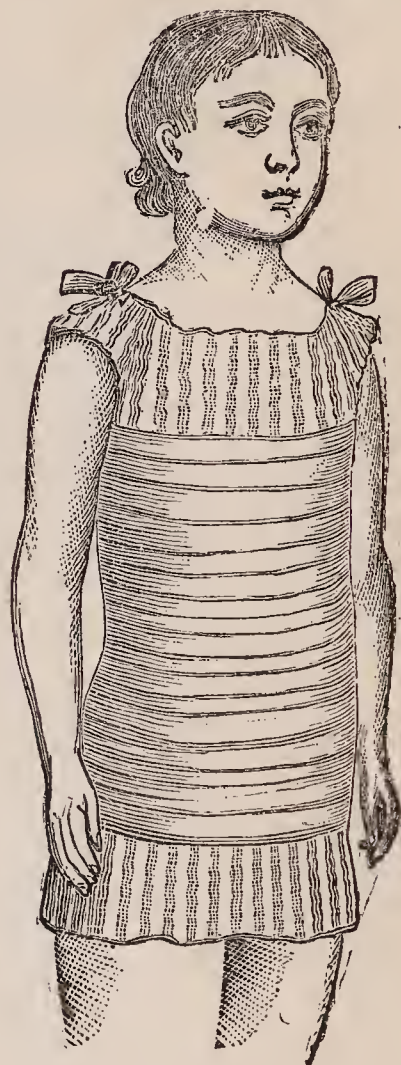


Fig. 3.

## 37.—ON TORTICOLLIS AND ITS TREATMENT.

By FRED. A. SOUTHAM, M.B., F.R.C.S., Assistant Surgeon  
to the Manchester Royal Infirmary.

Cases of torticollis, or wry neck, may be divided into two great classes, namely congenital and acquired. Congenital wry neck depends upon actual shortening or contraction of the sterno-mastoid muscle of one side of the neck; the deformity is, as a rule, not observed until the child is a few months old, and it often happens that little attention is paid to it for several years. As the child grows older the deformity becomes, however, more and more marked, the affected muscle, which may be two or three inches shorter than its fellow, standing out prominently beneath the skin, and the head being twisted so that the ear is approximated to the shoulder of the affected side, whilst the chin is turned towards the opposite one. In severe cases, the deep cervical fascia is often found much contracted, dense cord-like bands running obliquely across the triangles of the neck from the clavicle towards the chin and ear; associated with the wry neck, slight lateral curvature of the cervical portion of the spine is often present, with arrested development of the corresponding side of the face.

*Congenital torticollis*, in many cases, appears to be the result of injury received at the time of birth; for example, contusion or laceration of the sterno-mastoid muscle. This is probably followed by inflammatory changes in the muscular tissue, and, as repair gradually takes place, so much cicatricial contraction ensues, that the muscle becomes permanently shortened. In two cases of this kind, recently under my care, there had been a transverse presentation, while, in a third, labour had been extremely difficult, and the forceps had been employed.

The condition sometimes met with in infants, and known as "in-durcation of the sterno-mastoid," though occasionally syphilitic in its origin, is more commonly the result of injury during delivery. It seems not unlikely that, in neglected cases of this kind, torticollis may eventually develop. As already mentioned, torticollis is frequently found associated with arrested development of the face on the same side; and Dr. Ross has suggested that the combination of these two conditions is of nervous origin, that is, the result of a deficiency of some part of the brain, a condition of porencephaly possibly existing.

In most cases of congenital torticollis, operative interference will be required; for the deformity, being due to actual shortening of the affected muscle, cannot, as in many cases of the spasmodic affection, be overcome by manipulation or gradual extension, instrumental or otherwise.

The usual plan is to divide the muscle subcutaneously close to its attachment to the sternum and clavicle, and the safest method



is to make a small puncture, just above the clavicle, in the space between these attachments; through the opening a director should then be introduced, and passed close behind the sternal attachment, until its end can be felt projecting beneath the skin on the inner margin of the muscle; a blunt tenotomy-knife should then be run along the groove of the director, and the tendon divided from behind forward; the clavicular origin of the muscle, which, in most cases, also requires division, should then be treated in the same way, the director being passed behind it, from within outwards, through the same opening.

By this method there is, I think, less risk of wounding the large vessels which lie in close relation with the muscle at the point of division, namely, the carotid artery, and the internal, external, and anterior jugular veins.

It is advisable to perform the operation under the carbolic spray, so as to guard against the entrance of septic material into the subcutaneous gap left after the muscle gives way, which it usually does with a distinct snap as the assistant makes extension upon the head at the moment of division.

The operation is not altogether free from danger, for it may be accompanied by abundant hemorrhage, and Mr. Erichsen refers to three cases where it was followed by fatal results.

After the operation, the puncture should be closed with a pad of lint and collodion, the head being placed in an easy position upon a pillow. On the second or third day, the wound will generally have healed; and extension, combined with manipulation, should then be commenced, so as to completely overcome the deformity, which the division of the muscle will, in many cases, have only partially relieved.

This may be effected by a modification of the plan recommended by Dr. Little. A felt cap, or a plaster-of-Paris bandage, well padded, is applied to the head, and another bandage to the waist: one end of a piece of elastic tubing is then attached to the cap, or head-bandage, just behind the ear of the unaffected side, and the other end to the waist-bandage beneath the opposite nipple. The elastic extension, which thus acts in a line parallel to the unaffected sterno-mastoid, is then tightened until the head is brought into the proper position, and it should, at first, be worn by the patient day and night.

In some cases it will also be found necessary to employ a second piece of elastic, attached above to the head-bandage, and below to the back of the waist-bandage.

Combined with the extension, manipulation should be practised two or three times a day for ten minutes on each occasion; the patient's shoulders being fixed by an assistant, the chin should be twisted round towards the affected side, and the head bent over as far as possible to the sound side, or the patient, if sufficiently old,

may stand before a looking-glass and practise these movements himself.

This treatment should be continued until the deformity is quite corrected, and the head can be held perfectly straight; but, in many cases, it will be advisable that the elastic extension should still be worn daily for a short time; for, unless this be done, the deformity frequently tends to relapse.

Four cases of congenital torticollis, occurring in children aged 4, 7, 9, and 10 years, under my care in the Clinical Hospital, have recently been treated in the way described, with excellent results; in three of these, where the deformity was well marked, it was found necessary to employ elastic extension for some weeks after the operation; in the remaining case, where it was of a slighter nature, manipulation alone was sufficient to prevent any relapse.

*Acquired torticollis* is usually due to spasmodic contraction of the sterno-mastoid muscle of one side of the neck, though other muscles may also become involved. The spasm may be either of a tonic or a clonic character; consequently two varieties of the affection may be described.

In *tonic spasmodic torticollis* the spasm is usually the result of some central or reflex irritation; it may follow an injury to the head, or be associated with cervical caries, or with some cause of reflex irritation, for example, inflamed cervical glands, worms, etc.; it is occasionally met with in hysterical subjects, or simply as the result of exposure to cold. The deformity produced is similar to that met with in the congenital affection, but differs in this fact, that the contraction disappears completely under anæsthesia, and more or less so during sleep; in slight cases, it can also be often overcome on forcibly straitening the head.

In the treatment of these cases, all causes of irritation should be carefully sought for, and upon their removal the spasm will usually gradually disappear. When it is dependent upon spinal caries, the treatment must be directed to that condition, of which the torticollis is merely a symptom. A well marked case of this kind, occurring in an out-patient, a girl, aged 16, was recently sent to me by Dr. Ross; on fixation of the head and neck, and keeping the parts completely at rest, the contraction of the muscle rapidly disappeared.

*Clonic spasmodic torticollis* is characterised by a constant to-and-fro movement of the head, due to alternate contraction and relaxation of the sterno-mastoid muscle. The spasm may, at first, affect the sterno-mastoid of one side only, but in many cases other muscles gradually become involved; for example, the trapezius, as well as the scaleni, splenii, and obliqui, and occasionally the muscles of the face, shoulder, and arm; consequently the condition present will vary with the particular muscle, or groups of muscles, that are affected.



The cause of the spasm is usually obscure; in many instances it gradually comes on without any assignable cause, the patient being otherwise in good health.

The treatment of these cases is extremely unsatisfactory; internal remedies, such as sometimes prove useful in tonic spasm, are not, as a rule, followed by any or only by very temporary benefit.

Subcutaneous division of the sterno-mastoid has been performed, but without success, the spasm returning as forcibly as ever after healing has taken place.

Excision of a portion of the spinal accessory nerve has proved successful in cases reported by De Morgan, Wood, and Annandale, where other muscles than the sterno-mastoid had also become involved.—*British Med. Journal*, July 11, 1885, p. 59.

### 38.—ON EXCISION OF BOTH BREASTS AT THE SAME TIME.

By JONATHAN HUTCHINSON, F.R.S., Emeritus Professor of  
Surgery to the London Hospital College.

Thanks to antiseptic surgery, the removal of the breast has come to be such a slight affair, that we now without hesitation resort to it in many cases in which formerly we should have felt bound either to wait or even to decline it. The doctrine of the pre-cancerous stage of cancer has also spread, and had its influence. We have left behind the futile logomachy as to whether cancer is a constitutional or a local disease; and, whilst not denying the existence of family and individual proclivities, we now recognise clearly that, for practical purposes, it is, in nineteen cases out of twenty, local up to a certain stage. Hence we are zealous for early operations, and no longer delay until the tumour, by its size, its hardness, or even its gland complications, has taken on features which are not to be mistaken.

Problems of diagnosis present themselves to us which our forefathers would simply have shirked by waiting. We dare not do so, for we know that whilst we are delaying in order to feel sure, the patient's sole chance of permanent recovery, or even of prolonged interval of immunity, is steadily vanishing. Thus we deliberately prefer to run some risk of operating needlessly where certainty is unattainable, rather than encounter the far greater evil of delay.

I make the above remarks as introductory to the consideration of the question, as to whether there are any cases in which it may be desirable to remove both breasts at once. At first sight, it may seem that, when cancer is symmetrical, the proof of constitutional tendency is so strong, or even the probability of other growths being present so great, that it is not worth while to operate. Many cases have occurred in which, after good recovery from one operation and no re-occurrence on that side, the surgeon has felt justified, at a sub-

sequent period, in removing the other gland on account of an independent growth in it. The removal of both at once has, I believe, been but very rarely done, and is as yet, if I may judge by the remarks of some of my friends, looked on with disfavour by some of our best surgeons. If I mistake not, however, the time will come when, under the combined influence of the arguments to which I have just adverted, it will become a well esteemed procedure. The circumstances under which it is desirable will probably be chiefly those in which there is certainty of malignant growth in one breast and suspicion of it in the other, or in which, with a bad family history, there is strong suspicion as regards both, without certainty in either. It is clear that the surgeon can, during the operation, always make himself fairly certain as regards one. He can cut across the induration in the breast first removed, and inspect it, before proceeding with the other. There are, however, cases in which the surgeon cannot form a positive opinion until the microscope is used. All who have had much to do with breast-cases will, I think, admit that there are many cases in which the diagnosis is to the last a doubtful matter. It is only those who wait who never make mistakes. All of experience will also, I expect, be willing to admit, that even after diagnosis has been made certain, prognosis remains difficult, and that sometimes cases which have seemed most unhopeful prove the best.

I have seen a certain number of cases of cancer in both breasts, but usually at a stage in which operation seemed out of the question. In two or three, the propriety of a double operation has been discussed, but finally negatived. I have never actually resorted to it until the other day, in the case which I am about to record.

Miss G., a lady aged 46, was sent to me by Mr. Keele, of Highbury, in April. She was of spare habit, but in good health, and her history was that three aunts had died of cancer. She came on account of a lump in the left breast, and did not know that there was anything amiss with the other. I found some knotted lumps in the middle of the gland, concerning the nature of which it was impossible to feel certain. There were several of them, but one was larger and harder than the rest. On examining the other breast, according to rule, I found exactly the same state of things in it, though less advanced. There was no gland-disease in either axilla. The mammæ were wasted, but they had formerly been large ones, and they still covered large areas. There was enough of suspicion about the conditions to make me feel sure that, had only one breast been affected, I should have advised its removal, especially with such a bad family history; and, on thinking the matter over, I could not see any reason why, if one were taken, the other should not be also. I therefore determined to excise one, and examine it, and, if the conditions found were what I suspected, to remove the other also.



At the time of operation, before proceeding, I punctured one of the largest lumps, feeling a suspicion that it might prove to be a cyst. No fluid was obtained. After excising the gland, we found that it contained numerous small cysts, from the size of a pea to that of a hazel-nut, which contained a greenish glairy fluid. In addition to them, there were, however, several solid knots of new growth, which looked like scirrhus. This decided me to remove the other gland, and, on examination of it, precisely similar conditions were discovered. I had been very particular to remove on both sides every portion of gland-tissue, and the wounds were necessarily very large. The incisions from the two sides very nearly met on the sternum. The skin left was exceedingly thin.

The operation had been conducted, as usual, with Lister's full precautions. I only dressed the wounds twice afterwards, and on the eighth day took leave of my patient, healing being quite complete. On account of the thinness of the skin, I removed the drainage tubes on the second day, and after that did not look at the wounds till the sixth. There had never been a single drop of discharge. Thus it may be said that the patient did not feel the shock of the double operation at all more than if it had been a single one, and that she recovered as well as she could possibly have done.

I will leave for the present the discussion of the precise nature of the solid growths in these breasts. They have been carefully examined, and, although in all probability cancer, they will require minute description. It will suffice for my present purpose to repeat that, by the unassisted eye, it was impossible to distinguish them from scirrhus. It was this fact which was held to justify the removal of the other gland, and would have justified it independently of the verdict of the microscope. At some future time, when the facts as to recurrence or exemption are before us, it will be of interest to recur to the question as to their precise histological characters.

It may, I think, be held to be sound surgery to remove both breasts whenever suspicious conditions exist in both in an early stage. By adopting such a rule, we should probably save a certain number from ever becoming the subjects of declared cancer. I am not sure that we might not suitably extend that rule, and hold that, whenever the local conditions are favourable for operation if the disease be on one side only, the fact that it is on both ought not to deter us. Probably the double operation is only by very little more dangerous than the single one; and under modern plans of dressing there are but very few cases in which the patient is not, to some extent, a gainer by the removal of a cancerous breast. Whether one or both glands are concerned, our practice should, I think, be to operate when in doubt. No means should be omitted to clear up the diagnosis; but if, after all such have carefully been used,

doubt remains, then we allow our patients to run needless risks if we encourage waiting. Amongst these means, there is none more frequently valuable in correcting erroneous impressions than the exploring trocar. The cases which it clears up are not, however, those which puzzle us most. Nor in all cases does the difficulty vanish even when fluid has been obtained. For there are not a few cases in which cancer exists either in conjunction with numerous small cysts, or in which it follows on such formations. It is in this class of cases especially, of which the above is one, that double operations may be called for.

If it be asked whether, in cases of double disease, it is better to remove the two breasts by a single or by separate operations, I would venture, without hesitation, to recommend a single one, as probably involving both less risk and less inconvenience to the patient.—*British Medical Journal*, June 13, 1885, p. 1190.

### 39.—ON THE EMPLOYMENT OF THE TREPHINE IN ACUTE INFLAMMATION OF BONE.

By THOMAS JONES, F.R.C.S., Surgeon to the Manchester Royal Infirmary.

In the number of the Medical Chronicle for November last, attention was briefly called to the symptoms, prognosis, and treatment of acute osteomyelitis, as it affects the shafts of long bones. (See *Retrospect*, vol. 91, p. 229.) It was also suggested that by the early adoption of the trephine many of the graver phenomena of the disease might be avoided. In the present communication it is intended to allude to the employment of early operative interference in some of the acute osseous affections. The inflammatory process is essentially the same whether it occurs in bone, or in the soft parts; yet the treatment adopted in the case where the disease is located in the soft structures is regarded as inapplicable to the affection when it attacks a bone. It will be admitted by every surgeon that when, in inflammation of soft parts, symptoms of tension are pronounced, means should be adopted with a view of overcoming its evil effects. On the other hand, when there are unmistakeable signs denoting intraosseous pressure, we are content to wait while Nature makes endeavours—often futile ones—to rid the bone of the diseased products. While this is taking place, the patient's life is made miserable by the suffering which he experiences, and, not unfrequently, his life is placed in immediate danger. For more than fifty years the trephine has been frequently and successfully employed in the treatment of bone abscess; still, the benefits arising from its use have been almost entirely withheld from those suffering from acute bone affections.

To this statement there are some notable exceptions. Lanne-longue (*De l'Ostéomyélite Aigue*, 1879), regards trepanation of a



bone, the seat of acute inflammation, as the only rational therapeutic means, and that, by adopting this procedure, we are merely following Nature. Previous to the appearance of Lannelongue's works, Ollier had strongly advocated trephining in all forms of osteomyelitis which have, as a predominant character, intense and persistent pains which are not peculiar to a single variety of the disease. When other plans of treatment have failed, the operation may be applied in every form of inflammation if the severity of the symptoms demands intervention. In the acute forms, grave and often fatal symptoms of suppuration may be prevented, and, in the sub-acute and chronic forms, the principal symptom of which is intense and obstinate pain, relief may be afforded by relieving the pressure of the peripheral osseous tissue on the swollen marrow. The opinion thus expressed by Ollier may be regarded as applicable to all forms of bone inflammation, and the results obtained fully justify the means adopted. Numerous examples of great relief and many cases of permanent cure are recorded.

Among English surgeons, Bryant was perhaps the first to strongly advocate a resort to the trephine. In the Guy's Hospital Reports for 1879 he published the results obtained by operative interference in acute periostitis and endostitis, and in his paper will be found this very important sentence:—"When the disease is endosteal, the same proceeding (incisions down to the bone, recommended in acute periostitis) effects in a degree the same ends, and when it fails tapping the bone by a drill or a trephine may be had recourse to with a certainty of benefit; indeed, a free incision down to the bone in periostitis as well as in endostitis does nothing but good, and drilling or trephining inflamed bone, even when it fails to cure, tends to check the progress of the disease and relieves." Here we have a strong advocate of a plan of treatment so urgently required in cases where ordinary methods only too frequently fail, and where the employment of a trephine may make the patient comfortable, and afford him a good chance of preserving his limb.

[The details are then given of the three following cases, in all of which the use of the trephine at the seat of disease was attended by immediate and permanent relief to symptoms, though no definite collection of pus was found in any one of them. The conditions described as observed at the seat of trepanation were, infiltration of the cancellous structure with inflammatory elements, and punctiform extravasations of blood.

*Case 1.*—Girl *æt.* 19. Spontaneous ostitis of upper end of tibia, with secondary implication of knee-joint. Recovery with partial ankylosis of knee.

*Case 2.*—Girl *æt.* 22. Spontaneous ostitis of upper end of elbow of five weeks' duration. Recovery in three weeks.

*Case 3.*—Boy æt. 13. Spontaneous ostitis of lower part of diaphysis of tibia. Recovery in four weeks.]

It might be argued that a similar result might have taken place if no operation had been performed. Possibly; but on the other hand we know how frequently the osteomyelitis of a growing bone terminates unfavourably, and leads not only to extensive death of bone but to systemic infection, with its dreadful consequences. It might also be said that incisions through the soft structures covering the bone would have been sufficient, and that perforation of the bone was useless and dangerous. It was very evident, from the character of the pain, its deep-seated, intense nature, and the considerable interval between its onset and the appearance of the swelling, that the disease commenced in the medulla rather than in the periosteum, so that simple incisions, although they would have relieved the tension, and would afford a certain amount of relief, could not have had any beneficial effect on any inflammatory disorder which was more deeply situated. For this, a trephine or a drill is absolutely necessary. Some surgeons think it essential that a subperiosteal abscess should form before it is justifiable to apply the trephine. I am inclined to think it very desirable that whenever possible we should anticipate this stage of the disease, and that the earlier trepanation is resorted to the more efficacious it will prove to be. So that when the symptoms point to the presence of inflammation in the interior of a bone, notwithstanding the healthy appearance of the periosteum, the use of the trephine is urgently required.—*Med. Chronicle, May, p. 91.*

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#### 40.—ON THE TREATMENT OF COLLES'S FRACTURE.

By ROBERT JONES, M.R.C.S., &c., Assistant Surgeon to the Stanley Hospital, Liverpool.

As a routine practice, I think it best to seize the lower fragment of the radius, use the knee as a fulcrum, draw the lower from the neighbourhood of the upper fragment, and forcibly pronate, keeping the upper part of the radius fixed. Do not let the pull be upon the wrist-joint exclusively, as, apart from the extra pain it gives rise to, the control over the offending fragment is lessened. The great point is to ignore the patient's cries, and to make an unrelenting effort to propel the lower fragment, not merely in a line with, but in front of, the upper. The endeavour will of course not succeed, but by attempting a little too much just enough will be done. If the hand is now unloosed and even shaken a bit, only in very exceptional instances will the deformity recur. I have over and over again demonstrated this to friends, and nothing surprises me more than when the little experiment fails. This bears out some of my earlier observations regarding the unaided power of muscular contraction. On the rare occasions when deformity does reappear,



the great obliquity of certain fractures, or extensive comminution, will sufficiently explain the symptom. I have often extended the arm, as many books tell us is sufficient, with the effect of partially obliterating the distortion, only to return on release. In such cases the deformity is lessened merely by stretching the soft tissues, very little, if any, movement of the radius having been effected thereby. The recurrence so much spoken of is the effect, therefore, of incomplete reduction. On this point I am pleased to find I am supported by Mr. Mitchell Banks and Dr. Packard. Surgeons generally do not apply nearly sufficient "elbow grease" to the operation, and hence its frequent failure. In some cases very much force is required and the successful policy is to tug, twist, and turn until all is well. I have given the mode of reduction I think best as a routine plan; several cases, however, will have to be judged on their merits, and treated with a due regard to the mechanism of their displacements.

I have never used chloroform in a recent case, and I never remember being more than one minute (generally 10 or 15 seconds) over the most obstinate of recent cases. After the first week, however, real hard work is sometimes necessary, and an anæsthetic may be required. In one fracture, which had obtained for sixteen days, and in another of eighteen days, chloroform was given. An assistant fixed the anterior surface of the arm on the operating table, the wrist and lower fragment of the radius overhanging; and all the force I was capable of was expended upon pronating the lower fragment. In each case the result was successful. Here I would state that no fears of breaking the arm should intimidate the surgeon. In the vast majority of instances he is safe. He has only to remember the difficulties which at times visit him as he vainly endeavours to fracture a puny, rickety limb.

It may be asked, "What splint is best?" Provided reduction has been complete, and the patient is under observation, it does not matter in the least what splint is used. A Colles's fracture thoroughly reduced is as easy of treatment as any other, and special splints are either indications of doubt on the part of the surgeon or are used as extra precautions against the carelessness of patients. This latter reason is often an urgent one, and I can offer no better splint than the flexible sheet-iron splint, now often used in Liverpool. I have seen more evil results following in the wake of the pistol splint than that of any other. In twenty of my cases, after being certain as to complete reduction, I used straight concavo-convex anterior and posterior splints with very desirable results. But I again strongly insist on the fact that the splint is utterly secondary to complete reduction, which, when once effected and secured, will go more than half way towards success. Many surgeons advise us not to continue the anterior splint beyond the wrist, in order to

avoid stiffness. This, I am quite certain is an error. Sufficient security is required to ensure complete rest of the joint, movement in which interferes with the radius. Much of the thickening from excessive callus which our museum specimens exhibit, may without exaggeration be attributed to the short anterior splint. The same argument applies against removing splints in the third week "to exercise the parts." I have very rarely indeed had any difficulty in regard to stiff joints and fingers, although I have always very rigidly confined the wrist. My experience is in favour of five weeks' incarceration, when the joint will be more movable than in the third or fourth week. When the splints are removed, above all things leave the hand alone, and let the patient do his own exercising. By that means passive motion will be employed in the manner best calculated to early return of action. I have often been interested in noticing the good motion which often results in old cases, where stiffness obtained for years.—*Liverpool Med.-Chir. Journal*, July 1885, p. 438.

#### 41.—A SPLINT FOR INJURIES ABOUT THE ELBOW JOINT.

By ROBERT JONES, M.R.C.S., Liverpool.

I have found the annexed figured splints very useful amongst the out-patients of the Stanley Hospital. One form (Figs. 1 and 2)

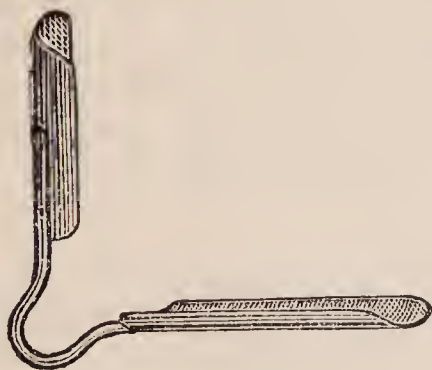


FIG 1

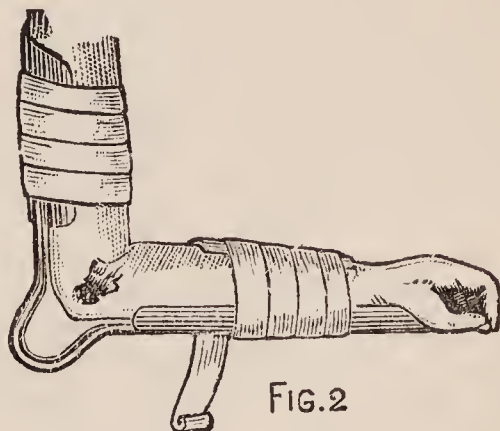


FIG.2



Krohne & Sesemann.

FIG.3

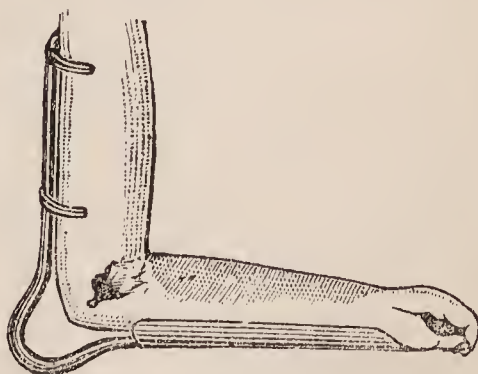


FIG.4

is composed of two very flexible sheet-iron splints covered with



felt, and connected by means of a firm iron rod, so twisted as to extend beyond the elbow, leaving ample freedom for easy change of dressings, without interfering with the immobility of the joint. This is of great advantage where perfect rest and free drainage are requisite. For comfort's sake the forearm support is extended beyond the wrist—a detail which should on no account be neglected. The connecting bar must be sufficiently strong to admit of no movement at the elbow. Where the wound is unusually large and extends up the arm, I use a modified splint (Figs. 3 and 4), the flexible sheet-iron support being substituted by small wings, which are quite easily bent and can be moulded to the arm without any trouble. The splint is made at any angle which the surgeon, regardless of the possibility of ankylosis, may suggest. This will vary according to the patient's vocation. Generally speaking, a right angle gives the most useful result.

The splints may be procured at a moderate cost from Krohne and Sesemann, 8, Duke Street, Manchester Square, London; and from Critchley, Upper Pitt-street, Liverpool.—*Lancet*, June 20, 1885, p. 1125.

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#### 42.—ON THE IMPORTANCE OF ABSOLUTE REST IN THE EARLY TREATMENT OF HIP DISEASE.

By JOHN CROFT, F.R.C.S., Surgeon to St. Thomas's Hospital.

I am quite in accord with the majority of surgeons in attaching great importance to pure air, particularly sea-coast residence, and such other general remedies as are well known to benefit scrofulous affections. I wish they were more within reach of the poor. The part of the early treatment of the disease which I would advocate now is absolute rest.

I have so frequently observed that the common treatment by rest has fallen short of absolute rest, that I shall venture to explain what I understand by absolute rest. Simply applying an approved hip-splint for a diseased joint does not ensure complete perfect rest, as probably most hospital surgeons are well aware. If the splint have been applied properly, it prevents all movement of the joint, but it fails to take off the weight of the body from the limb, nor does it necessarily take off the weight of the limb from the pelvis or body. The limb is supported by the splint, that is true; but that is not enough to procure physiological rest. So long as the limb depends from the body, the muscles and ligaments will assist in supporting it; and so long as these structures around the joint are not in absolute rest, the joint is not functionally at rest. Perfect rest is best obtained by the strictly recumbent posture, combined with a long splint, efficiently applied. Several objections have been, and are, raised against this treatment. It is alleged that the confinement entailed by the recumbent posture

is injurious to the general health. No doubt it is so when long continued, and in an unwholesome atmosphere, but only when it is practised under these unfavourable conditions. The main objection is to the unwholesome atmosphere, and that is one which may be overcome. The advantages gained by the absolute rest far outweigh any disadvantage from long recumbency, provided it be in a favourable air.

Another objection raised against recumbency and long rest in early treatment is one common to it and rest generally—namely, that ankylosis is likely to be the consequence of it. This objection applies to the treatment of simple synovitis or arthritis, but not to strumous and tubercular forms of chronic arthritis. I am convinced that interruption of absolute rest by passive movements of the diseased joint is very injurious, and an unscientific proceeding. It is as unsound in practice as inefficient rest. I have never seen ill results from properly conducted absolute rest; but I have often witnessed the mischief of interrupting the continuity of absolute rest.

Another and third objection to this kind of rest is one of an opposite kind; namely, that the pressure of the opposed articular surfaces causes ulceration of cartilage, or absorption of cartilage and bone. This objection does not apply to the scrofulous or tuberculous disease. When these morbid processes of ulceration, or caries, and absorption, are observed in strumous and tubercular inflammations, they are the results of the inflammation, and not of the pressure. I cannot admit that this objection is valid. It is as untenable as the previous ones, or less tenable. I am, therefore, an earnest advocate of complete continuous rest in this disease, for it is the most potent preventive element in the early treatment.

The morbid actions and changes which the surgeon should aim at preventing, are progressive inflammation, and the collection of scrofulous or tuberculous inflammation products in the articular structures or cavity. These products are known to be very little capable of undergoing organisation, and, on the other hand, they are too prone to undergo degenerative changes, such as caseation and liquefaction.

Next, I advocate absolute rest with the view of preventing the occurrence of the possible necrosis. The formation of a sequestrum in the acetabular part of the joint, or in the head of the femur, must, at any period of the disease, be a serious complication; serious, I mean, as it entails protracted illness and abscesses, and, probably, such operative treatment as is not uncommonly called for in the later stages. Early check of inflammation may prevent the necrosis. I do not say that it will positively obviate it; I can only say that it may do this. When caseous products of inflammation infiltrate a portion of bone, this, in all probability, will



become necrotic or carious. We can say this much, that perfect rest is the treatment best adapted to prevent necrosis, and I have pointed out that sequestra have been found in from thirty-five to sixty per cent. of examined morbid specimens.

Thirdly, I would quote the occurrence of the shortening of the limb, which has been found in not a few cases cured in the first stage, as another reason for observing strict rest in the early treatment. The early reduction of the inflammation, both in its local extent and severity, one would expect to have a material influence over the consequences to the growth of the bones concerned. This applies more particularly to affections of the femoral epiphysis, whether they occur primarily or secondarily.

Fourthly, the connection between early treatment and muscular rigidity or spasm is of a character very different from that of the three preceding subjects. Its presence is to be taken as evidence that inflammation is in progress; its total extinction is to be taken as evidence that inflammation has subsided. When there are no longer any muscular resistance nor pain on flexion of the thigh or the pelvis,—in other words, when the thigh can be completely and painlessly flexed on the pelvis,—then the inflammation may be said to be cured. This is, in my estimation, the most valuable indication that the case is cured.

I am reluctant to take up your time with remarks on the details of treatment; and, indeed, what I have to add may be condensed into a few words. The rest which is ensured by recumbent posture and the long suitable splint, should be accompanied by a certain amount of extension or traction upon the limb. I say a certain amount, for I do not think the quantity or quality of pain from which the patient is suffering is to be taken as the measure of the extension which is to be made. Some surgeons advise that weight or elastic force should be employed sufficient to neutralise the muscular spasms, and pull out the head of the femur from contact with the acetabulum, and to stop the night-screams; but my experience and reasoning are against the employment of so much force. The ilio-femoral ligament is no more capable of extension in early hip-joint disease than in dorsal dislocation of the femur. Weight, or elastic force sufficient to steady the limb, keep it straight, and prevent shortening, is all that is demanded.

With reference to local applications, my experience is against the employment of irritants, setons, issues, and the like. I have found leeching useful in relieving acute sensitiveness and pain in acute attacks of inflammation, such as we now and then meet with in the course of chronic diseases. In a similar way, poultices and soothing fomentations are occasionally needed. Their habitual use is not desirable. The whole limb should be kept warm, and scrupulously clean by washing, and it should be systematically rubbed to maintain the suppleness of the muscles and joints below

the hip, as this obviates some of the minor ills of long confinement.

The splint which I employ almost exclusively is a modification of Thomas's back-splint for the disease. I found the black-splint was unsuitable for the second and third stages of the disease. It was greatly in the way in dressing abscesses and wounds. In the early treatment, it was less easily managed than an outside splint, and needed much care that it did not cause splint-sores. I prefer the parallel outside splints. These are connected by a chest-girdle of the pattern now exhibited. The long splint on the diseased side should be about six inches longer than the limb, and it should be furnished with a simple contrivance for making extension. A stirrup is applied to the foot and leg, and this stirrup is fixed to the end of the splint by a strong elastic band or cord. When firm points of counter-extension are needed, a pelvis-girdle is added to the splint, and to this girdle the ends of a perineal strap are attached. The girdle is also useful in preventing or correcting tilting of the pelvis. In all cases of tilting, I use the double splint, but, when the disease is not accompanied by this deformity, a single splint is commonly sufficient. These splints are covered in by the bed-clothes, are easily managed by mothers, are portable, that is, patients can be carried in them. The ordinary splints for hospital use are made on the premises here by the assistant-surgeryman, at a trifling cost. He can turn out an excellent double splint for 10s. 6d., or a single one at half the cost. Mr. Spratt, of Bond-street, is in the habit now of making the complete double or single splint, and he has kindly lent me one to show you, which is on the table.—*British Medical Journal*, June 6, 1885, p. 1144.

#### 43.—ON THE METHOD OF PERFORMING EXCISION OF THE HIP JOINT.

By WILLIAM ALEXANDER, M.D., F.R.C.S., Visiting Surgeon to the Liverpool Workhouse Hospital.

[After discussing the various reasons why, as he avers, the operation of excision has for many years past fallen into disrepute, the writer proceeds as follows:—]

Notwithstanding the encroachments on the domain of the operation of excision, by the more perfect rest treatment in the early stages, and amputation in the later stages, its domain yet exists. In hospital practice, and in treating hip disease amongst the poor, I strongly disagree with the decision of the majority of the medical profession at the present time. That decision has been arrived at, I think, in the first instance, from the higher mortality that followed operation of excision in pre-antiseptic times, and from the unnecessary removal of too large pieces of the femur. Mr. Sayre removes the head, neck, and about half of the great trochanter.



Mr. H. O. Thomas, of Liverpool, gives a figure in his book that indicates nearly the same position as Sayre, where the bone is to be sawn through. Bryant gives the place to be sawn as immediately above the small trochanter, &c. Now the morbid anatomy of diseases of the hip-joint, as ascertained by an examination of many specimens, seems to me to show that in hip disease, caries or necrosis is excessively rare *in* the head or neck of the femur, that is, in the substance of the bone itself. The periosteum is stripped from parts of the neck of the bone, but the interior of the bone is, practically speaking, never diseased (except in neglected cases only fit for amputation), and, were the further stripping off of the periosteum stopped, recovery of the bone beneath the already stripped periosteum would occur. Mr. Sayre describes the difficulty of removing the periosteum in his operation of excising diseased hips. Whenever I experience a difficulty in removing periosteum, I think it should not be removed at all, and much less the subjacent bone.

Excellent results have no doubt sometimes resulted from such extensive removals in the hands of Mr. Hancock and others, but I look upon these sweeping operations as unnecessary in the *majority* of cases of hip disease. I only remove the head and neck of the femur, so as to secure a regular and level upper end to that bone, never sawing off any of the great trochanter if possible. If any distinctly dead bone exists in the shaft it can be gouged out. All loose pieces of bone are removed from the acetabulum, and its carious surface cleaned. A free opening is maintained with the interior of the joint by drainage tubes, and the limb is kept at rest in a suitable position, generally and probably most effectually, on a Thomas' hip-splint.

In making the external incision for this operation, one point should be especially attended to, and that is not to expose the great trochanter at its prominent part by the incision. I look upon this as of great importance in excision. When the skin over the great trochanter is parted by an incision there is a great tendency in that prominent part of the bone to protrude. I have had some difficulty in several cases from this cause, and the parting of the skin takes away a valuable aid in keeping the femur steady. I now make the incision well behind and above the trochanter, or in some cases in front of the trochanter. In one case an interior incision was made and the head of the bone removed by bone forceps. In the bones of adults this method of cutting the bone can be used without much danger of crushing, but in the case of children a finger saw is the best instrument. The posterior opening is, I think, the best, on account of the dependence of the opening, and for the same reason the anterior requires more care to prevent sepsis occurring. *None of the capsular muscles should ever be cut across* if possible, their presence and integrity being essential to

maintain the neck of the bone in position during the healing process.

I do not recommend, *but positively condemn*, the turning of the head of the bone out of its socket for the purpose of sawing, which in the old free method is generally advised. It is essential that the tissues around the joint (the muscles and remains of the capsule) should be disturbed as little as possible. I generally manage to saw through the neck of the bone with the femur *in situ*, by means of a finger saw, well guarded by retractors and the finger from injuring the tissues. The upper fragment of bone is easily removed, as the round ligament will invariably have disappeared. Should any fibrous tissue unite it at intervals to the acetabulum, a gouge insinuated within the joint will readily secure the evulsion of the head after the neck has been sawn through. The upper end of the femur being now held out of the way, the joint can be readily cleansed by chloride of zinc, and any sequestrum or dead tissue removed.

The sinuses should be syringed with chloride of zinc. Even in chronic cases I use antiseptics after the manner at present recommended by Professor Lister, but modifications of that apparently cumbersome method may be used from the beginning. In a few days I use only oiled lint dressing. When the original wound has degenerated to a sinus I omit the spray, as a sinus can generally defend itself successfully against the entrance of septic materials. One difficulty absolutely necessary to be successfully encountered in the after-treatment of excision of the hip, consists in the great trouble many have in keeping up for a sufficiently long time a free communication with the joint. The head of the bone that was well out of the way during the first or second dressing of the wound is often found afterwards to have shifted into the acetabulum, and thus to obstruct the free discharge of matter whether we use drainage tubes or not. The wound may cease to discharge and partially heal. Then pus collects, producing tension and fever, and shortly after an abscess points at the inner side of the thigh. Such a result occurred in three of my cases. A free opening in two of them freed the patient from suffering, and allowed the matter to escape until the joint had become quite sound. In the third, the collection of pus produced a recurrence of vomiting and fever which amputation failed to relieve. This was in an old pyæmic case. Extending the leg freely and firmly on a Thomas' splint is, according to my latest experience, the best means of preserving a free communication of the joint with the external air. By this simple means pain is relieved, tension abolished, and suppurative absorption prevented. The little patient's face invariably reflects the comfort derived from the operation before twenty-four hours are over, and a few days suffice to show that the whole system is relieved.—*Liverpool Med. Chir. Journal*, July 1885, p. 290.



## 44.—ON ERASION (ARTHRECTOMY) OF THE KNEE.

By G. A. WRIGHT, F.R.C.S., Assistant Surgeon Manchester Royal Infirmary; Surgeon to the Children's Hospital.

In January, 1881, I first began to employ erosion, or, as it is sometimes called now, arthrectomy, as a substitute for excision in cases of disease of the knee joint. Since that time I have performed the operation sixteen times, and have come to certain conclusions on the subject. The first case was so successful that I believed the plan might give brilliant results, and in many instances replace excision; but I have never again succeeded in getting so perfect a cure, although half my cases have turned out well. Since that time, Ollier, Volkmann, and others, have operated in the same way, with more or less encouraging results.

I propose to state shortly the *modus operandi*, and then give a very brief abstract of the results of my cases, with the conclusions I have drawn from them. Although I have employed the method in cases of disease of the ankle, I do not propose to allude to these now.

The operation consists in opening the joint freely by a semi-lunar incision, just as in the ordinary mode of excising the knee; the skin is reflected and the capsule removed on each side of the patella and patellar ligament, or, if preferred, the patella may be sawn across and the fragments turned upwards and downwards. If the former plan is employed, free incisions parallel to the long axis of the limb are made on each side of the patella, extending a little above its upper border as well as downwards nearly to the insertion of the ligamentum patellæ into the tubercle of the tibia; the object of this is to allow the patella to be freely displaced laterally, and turned round so as to expose its articular aspect during the process of erosion.

The rest of the operation consists in carefully cutting away with forceps and scalpel or scissors every particle of pulpy granulation tissue, all the infiltrated capsule and the semi-lunar cartilages, and scraping quite clean all the articular cartilage, picking out granulation tissue from any pits in the cartilage, and if necessary gouging away any small spots of diseased bone. The process must be most thorough, and extreme flexion of the limb is required to completely expose and clean the posterior part of the joint; the crucial ligaments are scraped but carefully preserved, the lateral ligaments usually divided.

The upper synovial sac must be thoroughly cleaned. The most difficult part of the operation is getting away the posterior part of the semi-lunar cartilages, and the synovial membrane at the back of the joint.

The process is a tedious one, often lasting one and a half or two hours, including the subsequent putting up in a splint. As soon as

all bleeding has been stopped, the limb is fixed on an excision splint and dressed in the usual method, antiseptically. Wood wool is the dressing I now prefer, from its very perfect absorbent properties, and the firm even support it gives; drainage should be at the back of the joint on each side as after excision, the tubes being carried through openings made behind the joint. I prefer to Esmarch the limb before beginning the operation.

[Here follow short notes of sixteen cases in which the author has performed the operation described. The results, apparently, are not much, if at all, superior, both in regard to life and limb, to those of ordinary excision. One child, aged 13 years, recovered with a perfectly movable and painless joint used freely and as strong as the other. In six cases a good result followed the operation, that is, the patients recovered with limbs described as sound and well, though in one or two of this series there was some bending of the limb. Two cases may be described as partial successes. Five cases required secondary amputation or excision, and two died of intercurrent conditions.]

On looking at these reports, it will be seen that they include cases of pulpy disease with no suppuration, cases with varying amounts of bone disease, some with extensive abscess, some with small amounts of abscess, and, finally, cases where there was general tuberculosis.

There was no information to be got from the work of others as to the particular cases for which the operation was suitable; I therefore had to find out for myself, and in several instances clearly the disease was much too far advanced for anything short of radical measures.

In those that have done well the common factors appear to be (1) Absence or very small amount of suppuration. (2) Superficial or at least not widespread bone disease. (3) Absence of general tuberculosis. In short, fairly early disease in a not hopelessly tuberculous child. This pretty well corresponds to the cases generally considered suitable for excision. I have not yet tried the operation in adults.

It is clear that extensive disease of bone and much suppuration will not allow good results to be obtained by erosion, neither as a general rule will they by excision, though I am quite sure that the knee may be successfully excised in cases where erosion is out of the question, as shown by excision succeeding where erosion had failed.

Although in one case a freely movable joint resulted, I do not advise the attempt to obtain mobility by early passive movement, except in a few instances where the wound has healed at once, and there is no obstacle in the way, such as dense and lowly vitalised cicatricial tissue.

Erosion, if it fails, leaves the limb little, if at all, in worse con-



dition for excision afterwards. In those cases where amputation became necessary, either the local or constitutional condition forbade hope of successful excision. Where it succeeds, erosion leaves as sound a limb as excision, without shortening. In some cases there may be mobility, though I think in most it will be found that there is not enough mobility to be useful; here the limb is very liable to become flexed after healing of the wound, but the same is true of excision in children.

I think, then, that in suitable cases erosion is, in disease of the knee, better surgery than excision, but its application is strictly limited. In all cases I have employed strictly Listerian antiseptics.—*Medical Chronicle, July 1885, p. 271.*

#### 45.—TREATMENT OF BOW-LEGS BY FORCIBLE FRACTURE, AND STRAIGHTENING THE BONES BY MANIPULATION.

By L. HEPENSTAL ORMSBY, F.R.C.S., Surgeon to Meath Hospital and County Dublin Infirmary, and to the Children's Hospital.

Bowed or bandy-legs are so common that they hardly need description, being met with in weak, delicate, rickety children, usually between the ages of two and five years. The direction and position of the curve vary considerably. First we notice the bowing *outwards*, commencing at the upper part of the tibia and fibula, the greatest convexity taking place about the centre of the shaft of these bones, or a little below this point. Next in frequency we have the bowing *outwards* and *forwards*, so that the tibiæ are found flattened and compressed from side to side, the fibulæ partaking, as a rule, in the same curve. Where the entire tibia is bent anteriorly or antero-laterally, the tendo Achillis is very tense and shortened, and has to be divided. Thirdly, the tibiæ may be bowed *inwards*. The simplest and commonest variety, however, is where both bones are curved outwards alone—a deformity which may affect both legs or only one. This bowing is generally recognised a short time after the child commences to walk, and goes on increasing until it assumes a very aggravated form. The treatment for such cases resolves itself into the following, and depends on the stage and degree of the distortion:—

1st. Medical, hygienic, and dietetic treatment in the first stage.

2nd. Splints—wooden, steel, or leather—properly adjusted and padded, in the second stage.

3rd. Forcible fracture by manipulation. Osteoclasy or Osteotomy in the third stage.

In the early stages of the distortion, the first two plans of treatment are applicable; such as removing the body-weight of the child and keeping him off his feet, and improving his hygienic condition and general health, with the use of suitable lateral splints or apparatus.

In the third stage, however, when the curvature is thoroughly confirmed and permanent, and the bones have become consolidated and hardened, so that they are much denser than in health, treatment of this description is useless; and to remedy the deformity, one of the three following methods must be adopted, viz.:—1. Forcible fracture by manipulation; 2. Osteoclasy; 3. Osteotomy.

1. *Forcible Fracture* is a plan I have very extensively adopted for some years, in cases where the bones are bowed outwards alone, or outwards and forwards. This treatment has also been carried out by my friend, Mr. Howard Marsh, of St. Bartholomew's Hospital. The ages most applicable for this line of treatment are the second and third years of life; but age has not so much to say to the matter as the condition and brittleness of the bones; for it is remarked that in some patients the bones are very soft, and in others, of the same age, excessively hard and unyielding; so that with any degree of justifiable force, one is unable to bend or break the bones. When I fail with the force of my two hands, I invariably succeed with the pressure of my knee applied to the limb; but should I fail with the force of my knee, I would deem it unadvisable to persevere, and I would then have recourse to osteotomy for the rectification of the deformity.

I have performed the operation of forcible fracture hundreds of times, and I never met with one single complication. I never produced a compound fracture; and I never failed, where I effected fracture, to rectify or greatly lessen the distortion. Some surgeons have doubted my muscular power of arms to effect fracture of the bones; I do not, however, think it requires any extraordinary strength; but the hands must firmly grasp the limb close together, so as to produce fracture in the exact position required.

*Description of the operation.*—The child being placed fully under the influence of ether, or other anæsthetic, I grasp the bowed leg firmly, with my two hands, above the ankle and below the knee, keeping my hands close together, but not touching, and with a sudden jerk laterally, using force in the opposite direction with the pressure of each hand, I am able to fracture the bones. The breakage is easily recognised by the snap, audible to the operator and the bystanders. Sometimes the bones bend rather than break, being elastic; and, if not broken at once, return to their abnormal shape when the pressure is removed. I would, therefore, prefer, in all cases, for the bone to snap; and by continuing the bending of the bone, fracture will invariably occur. When the audible snap is heard, the limb can be set in any position desired; and, so as to correct more effectively the deformity, I bend the limb more than is necessary, in the opposite direction, before putting it up



in two lateral wooden or metallic splints, well padded over bony joints to avoid pressure-sores, and then carefully bandage the limb. The further treatment of the case is the same as in any simple fracture in children.

In three weeks to one month I remove the splints and allow the little patients to get up and walk about, on straight limbs, which would take months and months of instrumental and mechanical treatment to effect. Where the case is double, I always perform fracture of both legs at one operation, the shock being quite the same.

If the pressure of my hands and arms is not sufficient, I then use the pressure of my knee, placing the child's limb across it. With the knee, however, the surgeon cannot be as certain to effect fracture at the exact position he wishes to break the bone. The moment the bone is heard giving way, which is known by an audible crack, the pressure should be at once discontinued, for to continue it might produce a compound fracture. Also, the hands should be kept close together when grasping the limb, and away from the ankle and knee-joints.

This treatment of fracture by manipulative force for bowed legs, when it can be performed without much difficulty, is, in my opinion, safe, rapid, and efficacious, and superior to osteoclasy or osteotomy; the former requires a very cumbersome apparatus, called an osteoclast, in which to fix the limb before carrying out the fracture, and the pressure of which, in many cases, produces extensive bruising of the skin and muscles. It is also superior to osteotomy, inasmuch as it saves the patient the danger of a compound fracture, the skin and soft parts being unbroken.

[The paper is accompanied by short notes of 25 illustrative cases, in all of which, after a period of treatment lasting from three to five weeks, perfectly good results were obtained.]—*Dublin Journal of Med. Science*, June 1885, p. 484.

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#### 46.—ON AMPUTATION FOR SENILE GANGRENE.

By W. HARRISON CRIPPS, F.R.C.S., Assistant Surgeon to St. Bartholomew's Hospital.

T. S., aged 65, was admitted in July, 1884. All his life he had been in the habit of drinking a considerable quantity of beer, cider, and spirits, but, owing to attacks of gout, he had latterly drunk spirits only. With the exception of gout, he had enjoyed good health. Early in May, 1884, after an attack of gout, he noticed great pain in all the toes of the right foot. They became red and inflamed, and a few days later a black spot appeared at the distal extremity of the big toe. This gradually extended to the remaining toes and part of the foot, and was accompanied by considerable pain.

On admission, the patient had a most unhealthy appearance, having a fiery red complexion, apparently the result of spirit-drinking and exposure. The chest-sounds were normal; but the urine contained both sugar and albumen. The toes and part of the right foot were gangrenous, the gangrene involving about half of the dorsum. The soft parts immediately bordering the gangrene were swollen, and of a dull red colour. The toes were black and shrivelled, but the rest of the gangrenous part partook rather of the moist than of the dry variety. The dead part was sprinkled with carbolated lime, and the whole limb wrapped in a thick layer of cotton-wool. A nourishing diet was ordered, and small doses of opium and quinine every four hours.

During the next ten days, the gangrene slowly extended, so that by July 31st the whole foot was involved. At this time, daily examination of the urine showed a considerable quantity of sugar. Rest at night was disturbed, the temperature generally running up to 101° Fahr.; but the patient continued to take nourishment fairly.

On August 1st, Mr. Cripps amputated through the lower third of the leg. There was scarcely any bleeding, neither of the tibial arteries spouting; indeed, both vessels appeared to be more or less obliterated. The amputation was performed under the strictest antiseptic precautions (spray and gauze). The stump remained perfectly sweet, and united, with the exception of a small portion at the lower angle. At the end of a fortnight, it was noticed that there was a circular patch of dead flap of the size of a florin. This eventually separated, and never at any time had the least smell. At the end of a month, the stump had healed, with the exception of a very small sinus leading down to a portion of bare bone. In November, a morsel of bone of the size of a pea was extracted, by enlarging the sinus; after which the sinus closed, and the stump firmly healed.

In the beginning of November, the patient, who was allowed to get about the ward, complained of dull aching pain in the sole of his remaining foot. A fortnight later, a black spot appeared in the centre of the heel. The patient was ordered to bed; the whole foot was thoroughly cleansed, and covered with an antiseptic dressing, and the entire limb wrapped in cotton wool. The black spot, which was of the size of half-a-crown, remained unchanged for three weeks. The skin then gave way, and there was a considerable discharge of black grumous material free from odour. On paring away the dead skin, an ulcer was found corresponding in size to the black spot, with dark red base and edges. This ulcer, under antiseptic treatment, slowly healed.

After the amputation, the sugar entirely disappeared from the urine, and only reappeared again for a few days on two occasions. From time to time, the patient was much troubled with boils,



and, on one occasion, with a carbuncle of a considerable size. The patient was discharged from the hospital in April 1885, in good health and with a sound stump.

*Remarks.*—There may be some doubt as to whether the foregoing case should be regarded strictly as one of senile gangrene. The diabetes very probably played some part as a cause of the disease. Nevertheless, I think that it was but a slight one; for, taking into consideration the general appearance of the limb, the age of the patient, and the atheromatous and obliterated condition of the tibials, the case may fairly be considered as an average example of senile gangrene.

Senile gangrene almost invariably first attacks the foot, commonly commencing in one of the toes. Its rate of progress is very variable. Sometimes it is rapid, so that day by day its advance is apparent. In other instances, for many weeks a scarcely perceptible progress is made, or it may remain stationary for a while, and then suddenly extend.

The constitutional disturbance accompanying the gangrenous process also differs greatly in degree. If the gangrene be slow, and tend towards the dry variety, the constitution may be but slightly affected; while, on the other hand, if the gangrene be more rapid, and the advancing line be preceded by swelling and dusky inflammation of the contiguous tissues, the general disturbance is marked; a raised temperature, a quick pulse, and a dry tongue declaring the septic condition induced.

So long as the disease is confined to the toes, there is a fair probability of its being arrested by suitable treatment. This consists in encouraging the circulation as far as possible in the sound part of the limb. The dead part is sprinkled with carbolate of lime, or other dry deodoriser; while not only the foot, but the whole limb, slightly raised on a pillow, should be kept warm and dry by being thickly wrapped in cotton-wool. There is nothing so injurious in these cases as the application of charcoal-poultices, or of moisture in any form; for they not only promote decomposition, but diminish the vitality of the still living tissue by the alternations of temperature they involve. In addition to the simple local treatment, the practice of giving a stimulating diet, with small doses of opium, as recommended by Pott and Brodie, is beneficial. Notwithstanding careful palliative treatment, it unfortunately commonly happens that the gangrene steadily advances, and the sufferer will, sooner or later, succumb to the septic condition resulting.

Until recently, influenced by the practice of the older surgeons, amputation for senile gangrene was considered an useless and unjustifiable procedure, the disease being regarded as part of a general malady, and it being thought that, should the patient survive an amputation, the gangrene would surely attack the flaps, and spread

upwards, to the ultimate destruction of the sufferer. Modern experience has proved these fears to be groundless, and shows that, when amputation is performed with strict antiseptic precautions, the patient has a good chance of recovery. In cases of senile gangrene, the circulation of the part is comparatively feeble, so that the low vitality of the flaps renders them peculiarly suitable soil for the development of putrefaction. Nevertheless, they have sufficient vitality to heal, provided all external infective agencies be excluded. Indeed, in studying cases of senile gangrene, it is impossible to overlook the fact that there are generally two causes at work, namely, low vitality of the part, and exposure to the germs of decomposition.

How often, for example, may it be observed that, notwithstanding that there has long been evidence of feeble circulation in the limb, actual gangrene only commences after some slight cut or excoriation forms a nucleus for starting the decomposition! When this process has once commenced, the nutrition of the limb is generally too feeble to allow a barrier to be formed to stop its progress.

Believing most thoroughly that the principle of amputation in these cases is sound, I would strongly urge its performance when the disease has spread to the foot. The point of selection for the operation is important. Mr. Jonathan Hutchinson, in his valuable paper read before the Royal Medical and Chirurgical Society in 1883, advised that the lower third of the thigh should be selected, on the ground that the nutrition of the flaps would be more active than if the amputation were performed lower down. I cannot but think that an amputation so high up is more severe than is necessary, and I would advocate that, whilst the gangrene is still confined to the foot, the less formidable operation through the thin part (lower third) of the leg is sufficient to arrest the disease.

In the only two cases in which I have had an opportunity of watching the effect of the operation in this situation, in both instances, by strictly observing antiseptic precautions, the patient's life was saved from imminent risk, and the stumps eventually soundly healed.—*British Medical Journal*, May 9, 1885, p. 941.

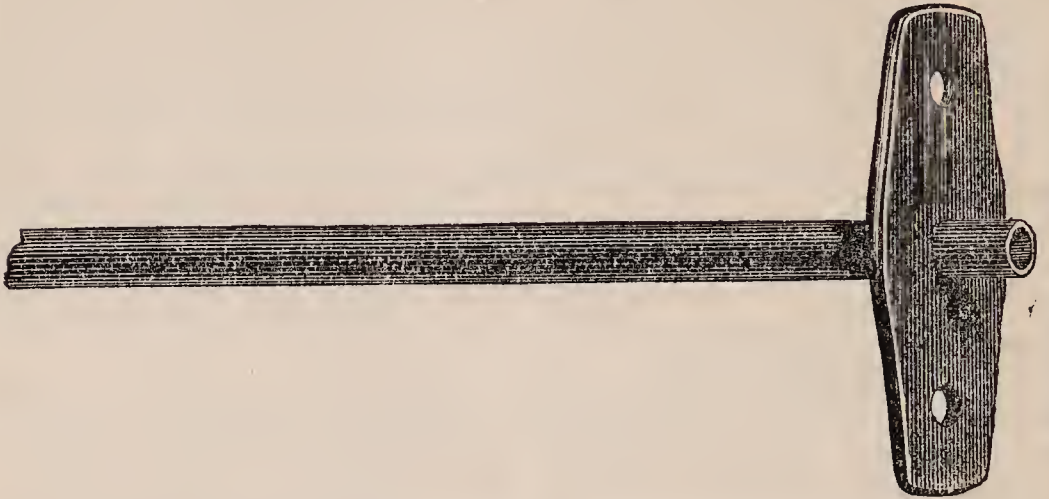
#### 47.—A FORM OF SURGICAL DRAINAGE TUBE.

By JOHN A. SHAW, Registrar (late House Surgeon) to the Victoria Hospital for Children, London.

In the search for a good absorbent dressing, the detail of the ordinary drainage tube may have possibly been overlooked. As a rule, if the end of the tube is flush with the incision, the dressings plug the entrance, and, if a large cavity, there is the possibility of the tube being lost. Should the tube project too far, there is the liability of its being doubled on itself, or its sides approximated



The advantage of the india-rubber tubes, as shown in the annexed diagram, is especially well seen in the drainage of empyemata.



There is no fear of losing the tube, and the small projecting portion acting as a spout drains well into the dressings, and not under them. Holes, if necessary, can be cut in shield or in the tube, and the tube itself be shortened as necessary. It may further be kept in position by tapes. Especially in the case of empyema, I have found the soft and small calibre tubes drain best, cause no pain, and less liable to set up any irritation.

They have been made for me by Messrs. Wright & Co., 108, New Bond Street, surgical instrument makers, where they can be obtained of any calibre of either soft or firm material, and at small cost.—*Medical Times and Gazette*, Jan. 17, 1885.

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#### ORGANS OF CIRCULATION.

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#### 48.—CASE OF ANEURYSM BY ANASTOMOSIS ON THE HEAD.

By G. B. FERGUSON, M.D., and G. A. CARDEW, M.R.C.S.,  
Surgeons to the Cheltenham Hospital and Dispensary.

Annie S—, aged nineteen, came first under the observation of Mr. Cardew at the Cheltenham Dispensary, in November, 1881. She then complained of a pulsating swelling at the back and right side of the head, involving also the right ear, which was greatly enlarged. She had had some swelling about that position throughout the whole of her life, the first stage having been a *nævus*, which had never been subjected to any treatment. During the twelve months previous to her seeing Mr. Cardew, the tumour had increased rapidly in size, and had frequently burst, severe hemorrhage in each case ensuing. The patient was a strong-looking girl of short stature, who, with the exception of occasional headaches, had enjoyed excellent general health. On examination, a consider-

able tumour was visible, evidently a cirroid aneurysm, otherwise styled aneurysm by anastomosis, extending from the back of the right ear to the occipital protuberance, and extending as high and descending as low as the upper and lower borders of the temporal bone, occupying, in fact, about twenty square inches. The tumour was of a pulpy consistence, and pulsated forcibly, as also did the ear. A loud thrill was audible over it. It was covered with small and thin-walled venous projections, which were the sites of the frequent hemorrhages. After a specially severe and dangerous hemorrhage about the middle of December, 1881—she was stated then to have lost about three pints—her friends and herself became seriously alarmed, and requested the institution of some radical treatment. Accordingly, she was shortly afterwards admitted into the Cheltenham Hospital, and came under the care of Dr. Ferguson. There, after due consultation, it was decided that the common carotid artery should be tied, and this was accordingly done in the ordinary manner, and with the full Listerian precautions that have been employed by all the surgeons of the Cheltenham Hospital since the year 1876. The operation presented no difficulty, and calls for no remark save that, the omo-hyoid muscle passing apparently somewhat higher than is usually the case across the neck, it was easier to secure the artery below than above the muscle: in which former position it was accordingly reached and tied. The ligature was of chromic catgut of medium thickness, most obligingly sent to Dr. Ferguson by Sir Joseph Lister. And in order that his kindness should not be unnecessarily trespassed on hereafter, we would desire in this place to repeat Sir Joseph's information, that chromicised catgut of identical quality can be supplied by David Marr of Holborn. The patient's progress after the operation was typically satisfactory, there having been neither pain nor any (even the most trifling) elevation of temperature. In fact, the dressings were finally removed on the eleventh day after the operation, exposing then the firm cicatrix of a wound that had evidently healed by first intention. The immediate result of the operation was the shrinkage, almost to disappearance, of the tumour, and the complete cessation of the pulsation. It was, therefore, no small disappointment to notice, after the removal of the dressings, that a slight pulsation was again perceptible over the site of the tumour. However, she was shortly afterwards dismissed from the hospital in good health and spirits, and well pleased at the result of the operation. During the next six months her history presented no points of special interest, save that the tumour became still less noticeable, and that the pulsation remained obscure. But after this six months' period of quietude, a collateral circulation succeeded in establishing itself to a somewhat considerable extent, and the tumour began again to increase and pulsate somewhat after its former fashion (though much less forcibly),



and there was even some recurrence of hemorrhage. This being the case, Mr. Cardew (to whose care she had returned) determined to ligature the tumour subcutaneously. One half of the tumour was accordingly ligatured with a silk thread in the usual manner, the latter being tightly tied. The result was the entire stoppage of the pulsation in the part tied. The silk was tightened every day for ten days, after which time, when it had almost cut its way out, it was removed. This process of ligation brought about a notable consolidation of one-half of the tumour, and this at the expense of but little pain or suppuration. Some few days afterwards, the posterior auricular artery was ligatured on a pin, which had been first passed under it, this step being taken in consequence of its large size and evident connection with much of the remaining pulsation. Two months later, the other half of the tumour was similarly ligatured subcutaneously, and again, six weeks later, as an additional safeguard, the whole was once more subcutaneously re-ligatured. With this last ligation the treatment ended, almost complete obliteration of the tumour having been effected, with an entire removal of the hemorrhagic tendency; and on inspection of the patient on March 7th, 1884, and eighteen months after the cessation of treatment, it was evident that a substantial cure had been effected. Some slight softness only was apparent at the position of the former growth, but there was no feeling of pulsation anywhere, save over an artery in the position of the occipital, and the ear, which was formerly so tumid, had returned to a moderate size. The hemorrhagic tendency had not again manifested itself, and the patient's health and spirits were of the best.

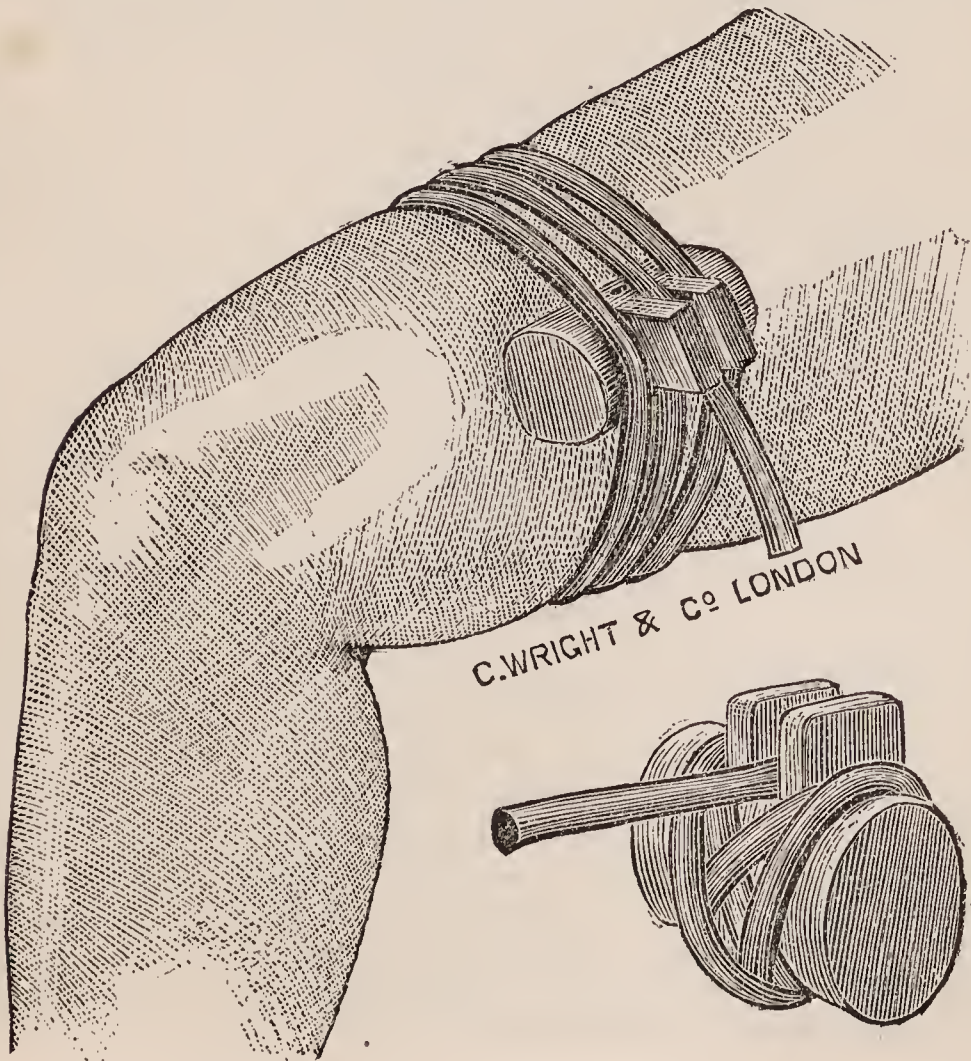
*Remarks.*—The chief interest of this case lies in its close resemblance to the one treated by Mr. Storke and Sir William Fergusson, and narrated in the latter's *System of Practical Surgery*, where much information respecting such cases will be found. Sir W. Fergusson, however, trusted more to obliteration of the vessels in the growth by pins and ligatures, and Mr. Cardew to ligation *en masse*. In respect to all such cases, it may be doubted if the treatment by pins or direct ligation could be safely applied without the preliminary tying of the chief nutrient artery, in reference to which question the following remarks of Sir William Fergusson are much to the point. "The practice above described was certainly attended with considerable hazard, both on account of the inflammation as well as the hemorrhage, and it was not without misgivings that I adopted it. But the case seemed otherwise hopeless, and the previous obliteration of the common carotid led me to trust that such bleeding as might occur could be controlled. Without this preceding step, it may be doubted if the result would have been equally successful; and I am therefore disposed to attribute the satisfactory issue to a combination of the two methods—

viz., first, the obliteration of the main arterial current towards the disease, and then the destruction of the vessels in its substance." It is interesting, finally, to note the success of both these cases in the face of Billroth's direct condemnation of the treatment pursued (Surgical Pathology), as interesting as it is to remember that the treatment which was written about so warningly by John Bell is that very one of extirpation most highly commended by Billroth.—*Lancet*, April 4, 1885, p. 609.

#### 49.—ON AN IMPROVED TOURNIQUET.

By RICHARD DAVY, M.B., Surgeon to the Westminster Hospital.

As considerable inconvenience has resulted to surgeons and dressers from the want of a good compressor and an easily-acting clip for the fixing or freeing of the elastic cord, I have recently introduced the following plan of a tourniquet for general use in the Westminster and other operating theatres. The subjoined drawing illustrates the tourniquet, as well as its application over the femoral artery. The elastic cord is fixed in the T-shaped





compressor by a concealed bullet in the cord, which prevents the cord pulling out one way only, but allows the cord to be withdrawn for purposes of cleanliness through a round hole at the base of the slot. This slot is cut deep in the handle of the T, and the cord in a state of tension is most readily fixed or liberated, the act of letting the elastic cord go in the slot being sufficient to make it secure. The cord may be used either as a one-ended or double band. By allowing the elastic cord to wind over the arms of the T, the compressor is nicely fixed for the use of the slot. This mechanism can be adjusted so tenderly that I have used a very small one for combating the nuisance of incontinence of urine, by applying the compressor under the urethra and the cord (doubly clipped) around the penis. Messrs. Wright and Co., of 108, New Bond-street, W., are the makers. Although in amputations the skilled thumbs of an assistant may be very good, yet I venture to think that the utility of this mechanical arrangement may be proved in urgent and not infrequent occasions.—*Lancet*, July 18, 1885, p. 118.

#### 50.—ON THE CURE OF VARICES BY EXCISION.

By J. FARRANT FRY, L.R.C.P.Lond., Assistant Surgeon to the Swansea Hospital.

The treatment of varicose veins may be divided into palliative and curative. The latter is chiefly called for when the former is ineffectual, and aims at obliteration of the varix by one of three plans—1, the production of coagulation by caustics applied along the course of the vessel; 2, division of the vein either subcutaneously or by compression; 3, complete excision of the vein. The objections to the first plan are, (*a*) the difficulty of producing just sufficient slough to obliterate the vein without destroying subjacent structures, and (*b*) the danger arising from the resulting shock. Division of the vein subcutaneously is neither easy nor safe, as the knife or needle may be passed through, instead of beneath, the vein; and, if passed beneath the vein operated on, it may transfix another vein lying beneath. [In one of my cases, the varix, from its position just above and on the inner side of the knee, was believed to be a part of the internal saphenous vein; but, on dissecting it out, I found that it lay over, and was not connected with, the latter; and that, had I attempted to transfix the vein subcutaneously, my needle would almost certainly have been passed through the saphenous vein. A similar case is reported by Mr. Davies-Colley in Guy's Hospital Reports for 1875, in a paper on Varicose Veins of the Lower Extremity treated by Excision.] A further objection to the subcutaneous treatment is the uncertainty as to when the pins can be removed. Subcutaneous section of a vein does not, moreover, always secure its obliteration.

Complete excision of large varices was recommended by Celsus ; but the plan fell into disuse, on account of the occurrence of diffuse inflammation and pyæmia. Dr. Steele of Bristol, and also Mr. Marshall, in the *Lancet* of January 23rd, 1875, advocated the excision of a considerable length of the varicose vein ; and Mr. Davies-Colley, in the paper before referred to, reports two cases in which he excised varicose veins with strict antiseptic precautions ; and, "from the result," he thinks "the operation bids fair to supersede all other plans of operative treatment." Adopting the recommendations of these able surgeons (both my much esteemed teachers), I have operated on six cases ; and the results have been so good that I have ventured to read this paper, with the hope that it may be the means of inducing others to adopt an operation which I believe to be a safe means of giving effectual relief to a troublesome complaint.

The notes of one case, which may be taken as a type of all, are as follows. Mr. P., a baker, aged 37, of average constitution and health, had for three years suffered from varicose veins of the left leg, and two months ago, an ulcer appeared on the inner side of the leg. By my advice, he had tried both the elastic stocking and Martin's para rubber-bandage, but they caused such irritation, that he discontinued their use. On the night of Sept. 2nd, 1884, I was summoned on account of profuse hemorrhage. On examination, there was an indolent ulcer, about the size of a penny-piece, on the inner side of the lower third of the left leg. The bleeding took place from an open-mouthed vein, which, commencing at the upper angle of the ulcer, immediately formed an irregular knotty mass ; from here, it could be traced in a dilated condition to just above the internal condyle, where it again formed an irregular convoluted mass, and gradually lessened in size above this point. Mr. P. readily consented to an operation, which promised a fair chance of ridding him at the same time of the ulcer and its cause ; so, after keeping him quiet in bed for a week to recover from the effects of the hemorrhage, the following operation was performed on Sept. 9th, 1884. An ink-mark about an inch long was made over each of the two varices (one near the ulcer, the other above the knee), and, the patient being under the influence of an anæsthetic, a Martin's rubber-bandage was firmly applied from the toes to the middle of the thigh, and removed after a Foulis' tourniquet had been placed round the thigh, at the upper margin of the bandage. The limb was now bloodless. Under carbolic spray (1 in 40), a longitudinal incision was made through the lower ink-mark, but only skin-deep, and extending into the ulcer. The tortuous varix now came into view, and was ligatured at its upper end with cat-gut ; it was dissected down, and ligatured again at the margin of the ulcer ; and thus a piece of vein six inches long was removed, through an incision one inch in length. The edges of the skin were



brought together with silver wire-suture, and antiseptic dressing applied. The second varix having been treated in the same way, the limb was firmly bandaged, and (after the tourniquet had been removed) swung in a Salter's cradle. During the first three days, the temperature ranged between  $99^{\circ}$  Fahr. and  $100^{\circ}$  Fahr., and then fell to normal. The wound was dressed antiseptically on the third, fifth, and eighth days; and on the last date the sutures were removed. Both incisions were healed, and the ulcer had closed in ten days more. On November 1st, Mr. P. returned from a three weeks' holiday, and said that, "so far as sensation goes, I do not know which has been the bad leg." The cicatrices and ulcer were firm, and he could comfortably wear the elastic stocking which I advised him to continue for a time. Within the last week, I have called on this patient; the cicatrices of the ulcer and of the incisions of course remain, but there is no trace of varicose veins in the leg, and he says he can stand and walk as well as ever.

This morning, I met in the streets of Swansea a woman aged 70, who had three varices removed more than two years ago; she tells me the limb is sound, and there is no sign of the varicose vein, and she would like to have the other leg cured.

The conclusions I would draw are that, if palliative measures afford sufficient relief, it is unwise to operate; but, of the various operations, the excision of the vein is the safest; and that, for its successful performance, the following details must be strictly carried out.

1. Excise through several small incisions (not more than an inch in length) in preference to removing one large piece, as by so doing the vein is occluded at several points.

2. Mark the site of the proposed incisions before applying the bandage, as the position of the varices becomes indefinite when the limb is rendered bloodless.

3. Apply the Esmarch's bandage carefully, so as thoroughly to empty the blood-vessels; or, the wound becoming full of blood, there will be considerable difficulty in dissecting out the vein, and very troublesome hemorrhage may occur.

4. Ligature the vein at its upper end, and dissect it out from above downwards.

5. Remove as little as possible of the tissues surrounding the vein; but, if this be unavoidable, take away also the deep fascia (which is but feebly supplied with blood, and will not favour union), and allow the skin to adhere to the vascular muscle.

6. Apply the dressings, and bandage the limb, before removing the tourniquet. By this means, hemorrhage is avoided, and primary union encouraged.

7. Above all, the careful employment of antiseptic measures is necessary, both during the operation and in the subsequent dressings.—*British Medical Journal*, Sept. 5, 1885, p. 445.

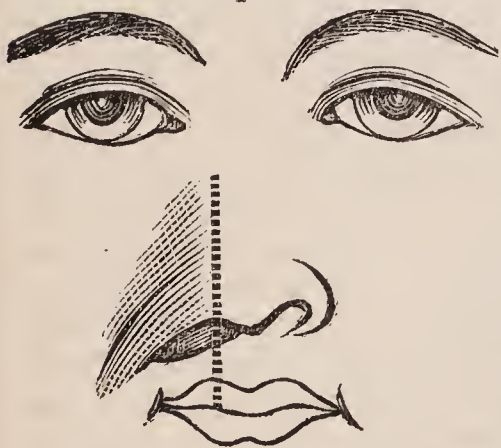
## 51.—ON A NEW OPERATION FOR NASO-PHARYNGEAL OR FIBROUS POLYPUS.

By FURNEAUX JORDAN, F.R.C.S., Surgeon to Queen's Hospital, Professor of Surgery, Queen's College, Birmingham.

This is the second young woman from whose nose and pharynx I have removed a fibrous growth by a very simple operation. This growth comes in young adults of both sexes. It is often attended by severe hemorrhage. It deforms the bones of the face. Ultimately, it interferes with the functions of breathing and swallowing.

Many methods have been used for its removal. Mr. Syme advised forcible avulsion by curved forceps carried through the mouth. Mr. Cooper Forster has shown the dangers of this method in a remarkable case, in which it gave rise to fracture of the base of the skull. Nélaton reached the growth by dividing the soft palate. The upper jaw has been excised for the purpose. More frequently, the upper jaw has been so loosened, that it could be turned upwards or downwards, according to the judgment of the operator.

The operation I now describe to you I have found to be efficient, simple, and followed by but little scarring. The leading principle of the operation is to thoroughly uncover the bony orifice of the nasal cavity. This is done by making a triangular flap out of the upper lip and the side of the nose. A curved bistoury is carried under the lip into the affected nostril, and made to cut its way out. Then the soft part of the nose is divided on one side of the middle line in a line with the cut in the lip (the wood-cut shows the incision). A few touches of the knife permit the flap to be turned well outwards. The nasal cavity is found expanded, well defined, and open to any sort of manipulation. To-and-fro traction by one or two fingers in the pharynx, and one or two at the front, aided, perhaps, by snips of scissors or knife, readily detach the tumour, which falls into the hand in the mouth. If the bone-opening should be found too small, I would enlarge it with strong bone-forceps. I believe the need for such a step would rarely arise. Delicate adjustment and stitches leave scars so fine, that only resolute search can find them.



Probably similar incisions would be found very useful in cases where the nostril is filled with ordinary, but obstinate and crowded,



polypi, and also in cases of malignant polypus, where it is deemed well to clear the nostril for a time.—*British Medical Journal*, May 2, 1885, p. 888.

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## 52.—ON THE SURGICAL TREATMENT OF GALL-STONES.

By LAWSON TAIT, F.R.C.S., Birmingham.

The only reasonable explanation of the formation of gall-stone with which I am familiar is one by Dr. Thudichum, that they are formed of deposits of cholesterin and colouring matter round casts derived from the finer ramifications of the hepatic ducts. This explanation is at least consistent with all the facts which have come across my own personal observation in dealing with gall-stones from the surgical point of view. It is very well known that gall-stones form in the substance of the liver itself, and that they are found in the hepatic ducts sometimes of large size. I myself have cut two out of the substance of the liver, the larger being more than an inch in length. They had given rise to suppuration, and were undoubtedly the cause of the hepatic abscesses for which I operated. But the great majority of the cases of gall-stones with which we have to deal surgically are contained within the cavity of the gall-bladder, and for clinical purposes it seems to me necessary to divide them into two varieties. The symptoms which they give rise to, and to some extent the details of the operation required for their removal, differ considerably in the two varieties. I am inclined to believe that the pathology of the two forms is not quite alike; but I have not the time now, nor indeed the opportunities, required to follow out the research which this view suggests. Suffice it for the present for me to repeat that for clinical purposes there are two kinds of gall-stones—we may call them the solitary gall-stones and the numerous gall-stones. The solitary gall-stone is not always quite solitary, but it has rarely more than one companion. The numerous gall-stones, on the other hand, are practically indefinite in quantity, and are generally of a pretty uniform and not large size. It may be that the solitary gall-stone is a mere remainder of the multiple formation, as may be explained by-and-by, but I have not found any evidence that this is the case. Let me describe in the first place two typical cases, one of each of the two forms, in order that the differences in the symptoms and in the peculiarities of the operation may be distinctly seen. The first solitary kind of gall-stone was very well illustrated by the first case of cholecystotomy which I performed, the first successful case on record.

Elizabeth M——, aged forty, was admitted to the hospital on August 18th, 1879, having been sent to me by Dr. Abraham Colles of Bridgenorth, on account of an abdominal tumour. She had been married eighteen years, had borne six children, her menstua-

tion had always been normal, and she had enjoyed perfectly good health until the summer of 1878. At that time she began to suffer from severe spasmodic pains in the right side, these being always aggravated by walking or by lifting even slight weights. In September she noticed a swelling at the seat of pain, and this slowly increased. During the previous winter her pain became much more intense, her appetite failed, she lost strength and flesh rapidly, and on admission she presented an emaciated and almost cachectic appearance. She also suffered at that time from incessant headache and sickness, and obstinate constipation. The seat of pain was over the right kidney, where there was a heart-shaped tumour, firm and elastic, in which no fluctuation could be detected, and which was extremely tender to the touch. On examination under ether, this tumour was found to be perfectly movable toward each side; indeed, it could be pushed completely across the middle line to the left side. All round it a note of intestinal resonance could be produced. When pushed over to the left side its heart-like shape became very apparent; and when it lay on the left side of the vertebral column, with its apex directed downward and to the left, its base evidently retained a connection with the right side. A careful examination of the urine gave only negative results, though she spoke vaguely of its having been occasionally dark in colour, muddy, and deficient in quantity. At the consultation held upon the case, a variety of suggestions were made for diagnosis, the chief of which were cystic enlargement of a floating kidney, a tumour of the head of the pancreas, and dropsy of the gall-bladder. But no decided diagnosis was attempted, and my proposal to open the abdomen and thus ascertain the nature of the tumour was agreed upon. On August 23rd I opened the abdomen in the middle line to the extent of four inches, the umbilicus forming the centre of the incision. It then became at once evident that the tumour was a distended gall-bladder. I passed the needle of an aspirator into the apex, and drew off a quantity of white starchy-looking fluid, probably amounting to between twelve and fifteen ounces; but I cannot speak positively as to its amount, as it was unfortunately thrown away by a nurse immediately after the operation. I then opened the gall-bladder at the point of puncture, so as to admit my finger, and came at once upon a large round gall-stone lying loose in the cavity. This I easily removed, and on further search I found another of rather larger size, and probably of pear shape, at the entrance of the duct, impacted in it, and evidently the cause of the dropsical distension of the gall-bladder. The removal of this stone was a matter of very great difficulty; in fact, it took a very much longer time to effect than all the other steps of the operation put together. From the long, narrow, funnel-like cavity in which it was lodged, and from the mobility of the bladder, it was very difficult to seize, and, when at



last I did get hold of it, I found it adherent to the mucous surface. I had then to consider the extreme likelihood that in removing this impacted stone I might tear the walls to which it was attached, and thus certainly kill my patient. I therefore performed a very careful and protracted lithotrity, chipping little fragments off the stone regularly all over its exposed surface till I had the satisfaction of lifting out its nucleus. I then passed the blade of a fine pair of forceps on each side of it, and by a gentle squeeze broke up the remainder, and was then enabled to lift it all out. The weight of the stone removed entire is 4·2 grammes, and that of the fragments I could gather of the broken stone is 2·9 grammes; but of the latter as much again must have been lost on the sponges which were packed into the wound during the process of crushing, and upon which I had constantly to wipe my instruments. I washed the cavity out repeatedly, and took every precaution that I could to secure that no fragments were left. I then stitched the wound in the gall-bladder to the upper end of the wound in the abdominal walls by continuous sutures, leaving the aperture into the bladder quite open; and then I closed the rest of the abdominal opening in the usual way. She rallied from the operation completely in a few hours. In the further progress of the case there is very little to report, save that the flow of bile from the wound continued till September 3rd, when the dressings were discontinued, and zinc ointment was used in their place. The stitches were removed and the wound was completely healed on September 9th, when she began to take solid food, up to that time her diet having been restricted to milk and beef-tea. On the 14th she sat up for the first time, and on the 30th she went home quite restored to health, free from pain and all her former symptoms, and having gained at least fourteen pounds in weight. This patient remains in perfect health.

In this case it will be seen that the symptoms were never of an extremely acute kind, but the patient suffered perpetual discomfort, and very often the pain was somewhat severe. The impaction of the gall-stone in the cystic duct in such a case prevents the flow of bile into the gall-bladder, and all the bile passes straight into the duodenum in a continuous stream. None of the experiments which have yet been performed on the livers of animals give anything like a satisfactory explanation of the function of the gall-bladder, nor of the function of the bile, nor even of the rate at which the bile is secreted. The experiments which have been performed in my cases of cholecystotomy make it perfectly certain that the flow of bile is continuous in quantity, and, so far as I could determine, is fairly so in quality. The function of the gall-bladder seems to be the result of the meal system of humanity—that is to say, the secretion of bile is from time to time diverted, either wholly or partially, from the duodenum into the gall-

bladder, and there it is stored until required, and, when required, a double stream, one from the liver and the other from the storage in the gall-bladder, is passed into the duodenum. I have come to another conclusion, of a curious and certainly novel kind: that the quantity and quality of bile is greatly influenced by the condition of the peritoneum; for one of the earliest and most important symptoms in abdominal trouble is the occurrence of bilious vomiting. I have uniformly found that, if I can get ahead of this by rapid purgatives, I save my patient from fatal peritonitis. I regard Seidlitz powders as far more important in abdominal surgery than all the ingenious contrivances of Lister. It is not unlikely, but it is not known to be the fact, that the double exit of bile, of which I have just spoken, takes place whilst digested food is passing through the duodenum—certainly one can imagine that it would be at that time most needed; whilst, on the other hand, as this bile would to some extent arrest the process of digestion already accomplished in the stomach, it is just possible that this theory is exactly the reverse of what actually happens. We are, indeed, in a condition of absolute ignorance upon all these questions. I have watched some of my cases with the greatest care to ascertain, if possible, when the contraction of the gall-bladder, which must have some kind of periodic discharge, took place, but I have entirely failed to obtain any clue to it. It must be perfectly clear that if, in such a case as the one I have described above, there should still remain, as doubtless there would, some machinery in action by which the gall-bladder could be made to contract periodically, it would do so in obedience to directions of a uniform kind, and failing to empty itself, by reason of the gall-stone impacted in its neck, it would cause discomfort and pain. This sort of indication has been noticed clearly in some of my cases, but I have not yet been able to determine any definite relations in its occurrence; but it is in such observations that we should find the clue to the true functions of the gall-bladder.

In cases of solitary gall-stones, we find a very frequent incident in distension of the gall-bladder, the distension being so great as to present the appearance of a large pear-shaped tumour containing a pint, or perhaps even two pints, of opalescent mucus—never bile. The operation in such a case is easy enough so far as the opening of the gall-bladder is concerned and the bringing of it outside; but the removal of the calculus impacted in the distended neck of the gall-bladder is an extremely difficult thing. It consists really of a kind of lithotrity, because it is necessary to remove the fragments very completely. I have a pair of alligator forceps for seizing and crushing the stone, and I drive out the fragments by the aid of a stream of water, after the stitching of the gall-bladder to the wound has been effected.—*Lancet*, Aug. 29, 1885, p. 379.



## 53.—ON THE SURGICAL TREATMENT OF OBSTRUCTION OF THE BOWELS.

By C. G. WHEELHOUSE, F.R.C.S., Consulting Surgeon to the General Infirmary, Leeds.

On the general subject of obstruction of the bowels, and its relief by operation, I should like to say a few words, and to gather up, for your benefit, the experience of my surgical life. As a student, I never saw such a thing as an abdominal section for the exploration of such a case. I never heard it discussed in consultation. So long as any outward hernial cause could be detected, it was, of course, promptly examined, but when the obstruction was purely internal, palliative measures were all I ever saw attempted. I have seen the inflated and distended bowel punctured to give exit to its gaseous contents, and even that was looked upon as a great and dangerous thing to do; and of a truth it was so, for, while quite as likely to produce fatal mischief by the admission of foetid gas into the peritoneum as a more decided operation, the temporary relief afforded from pain and spasm was scarcely worth the risk that was run, and the remedy was never curative.

In the present day, as you know, many lives are saved, and are as valuable after an exploration as they were before, or more so; and the only question we have to determine is, the propriety or otherwise, in any given case, of an operation.

Where the obstruction is the result of prolonged peritoneal inflammation, and consequent enteric paralysis, it is manifestly absurd to suppose that any good can come of surgical interference. But there is a result of such peritoneal inflammation in which, by timely help, the surgeon may save life as easily as he does when he liberates a strangulated hernia.

By peritonitis, two or more coils of intestine may have become glued together, or bands of lymph may have been so stretched from point to point as to form snares, in which loops of healthy intestine may be caught and trapped, and life may thus be brought into sudden peril.

Such cases are usually as acute in the symptoms they produce as external herniæ are, and the symptoms by which they are accompanied are of the same order. Thus, a person in otherwise perfect health, at least as far as is known, is seized quite suddenly with severe abdominal pain, which soon culminates in prostration, nausea, hernial vomiting, with local distension and great tenderness of the belly, and complete constipation. No hernial tumour can be found, and yet all the symptoms are those of hernia, with strangulation; and, in the name of surgery, we are bound to explore the belly to see if there be not some such temporary obstruction, capable of relief.

If it can be ascertained that the patient has, on any former

occasion, suffered from peritonitis, enteritis, perityphlitis, or from any inflammation likely to have been productive of lymph, which may have become stretched out into bands, so much the greater is the call for interference.

Even as I write these lines, many successful cases rise before my memory; and notably one in which a little boy, believed by his parents to have been in perfect health all day, was seized during the night with symptoms such as I have detailed. Every indication of acute strangulated hernia was present when I saw the child, early in the morning; and yet no hernial swelling could be found. After watching the case for a few hours, and seeing that collapse and death were becoming imminent, I placed the necessity for an abdominal exploration before the parents, and was rewarded by receiving their free permission to do whatever I thought might save the child. What I found was a small portion of one side of an intestine, not by any means an entire knuckle, tightly trapped in the left internal inguinal ring, quite insufficient to make any external appearance, but which I was able, without difficulty, to liberate from within; and the release of which was followed by immediate and perfect recovery. After the boy got well, he admitted that, during the day, he had fallen head over heels down a long flight of stone-stairs, but had determined not to say anything about it to any one.

In acute cases such as this, then, I think the course of the surgeon is quite clear. He may find a band, or some temporary obstruction, which he may be able to relieve; he may find an intussusception, which he may be able to unfold; or an internal hernia, of some kind such as I have described.

Much more difficult cases to deal with are those of slower development, and less urgency of distress; such as may arise from occlusion by fæcal accumulation, by some localised inflammation, by chronic invagination, or by implication in some diseased process, not inherent in the intestine itself, but in surrounding parts, and involving it. In such, we have more time for deliberation; and, by careful observation, we may generally, I think, come to a safe conclusion as to whether nature may be trusted with the case, or whether an exploration has become necessary. But we are more liable to be misled in these than in the former cases. Let me relate a case in point.

I was once summoned to such a case at a distance, and was urged by the practitioner in attendance to explore. I at once declined, on the ground that the symptoms were neither sufficiently urgent to demand so serious a proceeding, nor was the time during which they had existed sufficiently long.

Moreover, I received from the patient, in justification of delay, the assurance that, on three previous occasions, she had passed through similar and worse symptoms and recovered, and felt quite



sure she should do so again. I left her, and, I must say, felt no very great anxiety about her; but, on the fifth day afterwards, I was hastily summoned to her again, and found her in a condition of collapse, from which I saw in a moment that she could not recover unless something could be done by operation, and I proceeded to operate at once. I shall not readily forget the distress I experienced when I saw the solution of the difficulty, for I had lost an opportunity to save a life that might, perhaps, have been saved. Stretching from the left ilium to the front of the sacrum was an old inflammatory band, which formed a bridle across the rectum, and lightly obstructed it. Fæces passing from the sigmoid flexure into the rectum were, to some extent, obstructed by it in their course, and such obstruction had, no doubt, been the cause of the previous illnesses of which I had heard. But this time there was this much more: a large intestinal concretion, probably of biliary origin, had got so far on its way as the obstructing band that it could not pass, and the band was too strong to yield; so in the struggle between them the intestine had become gangrenous around the obstruction, and had given way.

Of course, the patient died, and, though I could not charge myself with the blame of her death, I have never ceased to feel that, had I operated when I was first urged to do so, she might have been saved.

Then, finally, there are those long continued cases, manifestly chronic, commencing originally with almost unnoticeable symptoms, which go on growing worse and worse from week to week, and from month to month, until at last it becomes a case of either death or operation, and probably of death any way. These are the cases which generally depend upon abnormal growths of some kind or other, either in the intestine itself, or in neighbouring structures, in which, as I have said, I should feel inclined to explore as a *dernier ressort* and be guided by what I found as to what I did.

Into one or other of these three classes most cases of intestinal obstruction will fall; and just as the bent of your judgment is of the very active surgical order or the reverse, so, probably, will your practice be; and if you live to enjoy length of days, and much surgical experience, I feel pretty sure that, in the end, you will come to very much the same conclusion as I have done.—*British Medical Journal*, April 18, 1885, p. 768.

#### 54.—ON THE MODE OF PERFORMING ABDOMINAL SECTION FOR INTESTINAL OBSTRUCTION.

By J. GREIG SMITH, M.A., F.R.S.E., Surgeon to the Bristol Royal Infirmary.

[In the course of a clinical lecture, after describing only to condemn the “inch-by-inch” examination of the intestine in cases of acute obstruction, Mr. Greig Smith said:—]

The plan I would recommend to you is this. The most distended portions of bowel are usually nearest to the surface; move these about gently, and fix upon any part that appears to be more congested than another. Follow this part in the direction of increasing congestion down into the cavity, wherever it may lead. If now the cause be discovered, it may be at once treated. If not, I would then recommend a plan which has been almost universally condemned; that is, to permit the bowel to extrude. The wound is covered with some layers of fine cloth, or, better still, by a large flat sponge wrung out of warm carbolic or boracic lotion, and covered with gutta-percha tissue to prevent evaporation and cooling; and the most distended coils are coaxed out under this covering. Carefully watch the gut as it comes out. One end of the coil will be more distended than the other, and will come out less readily, and this end will probably be more injected. As they continue to extrude, these differences will be more marked, and we will be able satisfactorily to decide that one end of the coil is nearest the cause of the obstruction. We follow this end wherever it leads; it will certainly lead us to our goal. I have three times followed this course, and have been charmed with its simplicity and efficiency.

Turning to the extruded coils of bowel, the bulk that they assume may look somewhat alarming. If the distension be not very great, you may try to return them. Spread the hands over the warm antiseptic covering, gather the bowels together, and, by steady gentle equable pressure, send their contents into the bowels that lie inside the abdomen. When they are nearly emptied, and occupy about one-fourth of their previous bulk, they may be slipped through the wound, while an assistant, with finger hooked in at each extremity, pulls the opening forwards. The abdominal wall is, so to speak, pulled up over the bowels. A flat sponge is now laid over them to protect them and keep them in position while the wound is stitched up.

But it is by no means certain that we are always right in thus closing up an abdominal wound over distended bowels. In fact, I believe that in doing so we are nearly always wrong. I believe that this distension with fluid and gas is in itself a serious factor in the malady. It certainly acts as an obstruction. I place before you these coils of intestine, with the mesentery attached, just removed from a dead body. They are filled to distension with fluid, and confined within the walls of this dish. You notice that the gut forms acute flexures, and that, at each of these, the mesenteric side of the bowel is pushed in, and acts as a sort of valve, blocking the calibre of the gut. As with any other tube, if you bend the bowel acutely enough, you will block its passage. Inside the abdominal cavity, where the confinement is greater, the flexures are more numerous and more acute than those on the table, and you



may easily satisfy yourself by experiment that the passage of its contents is even more difficult. Practically, this fact explains why we are so often disappointed with the effect of tapping the bowel to permit the escape of gas or fluid. We empty it down to the first or second flexure, and no further.

Such distension also has an injurious effect on the bowels themselves. An intestine that has been overdilated for hours or perhaps days, and that is probably partly paralysed by opium, we should expect to contract on its contents no more than a dilated bladder under the same circumstances. If it cannot pass its contents along, the obstruction is to all intents and purposes unrelieved. We know that such increase of pressure inside the abdomen is, partly from its physical effects on the diaphragm, and partly, no doubt, through injury to the sympathetic ganglia, a cause of serious illness. When added to the effects of intestinal obstruction, its gravity is increased tenfold.

Now it is a matter of constant experience that free vomiting greatly relieves the patient. I am one of those who do not lightly regard the experiences of our forefathers; and I cannot believe that the very general esteem in which, from the days of Hippocrates and Praxagoras, they held the use of emetics in obstruction, was utterly misplaced. And quite recently we have had recommended strongly by Kussmaul the removal of intestinal gases and fluids in these cases by the use of the stomach-pump. Relief is always claimed for this procedure; and, in not a few cases, positive cure.

I certainly consider the removal of this fluid and gas from the bowels, after relief of the constriction, as the most important detail in treatment. If it is to be done it must be done rapidly, for no time must be wasted in these operations. Tapping will not do, for the flow through such a trocar as we should dare to push through the intestinal wall, would be far too slow. We must incise the bowel. The blade of an ordinary scalpel, making a wound about one-third of an inch in length, is pushed through the bowel transversely, at the point furthest removed from the mesentery; and, while you hold the opening, removed as far as possible from the wound, over a receiver, an assistant presses the sides of the abdomen, and squeezes out the intestinal contents. At first, probably, there will be a rush of gas, and then fluid will follow, watery or fæcal, as the case may be. When the abdominal walls are flaccid and the intestines are nearly emptied, we may stitch up the wound in the bowel, return it, and close the abdomen.

You have just seen this proceeding carried out in one case. The patient was in about as bad a condition as one ever sees upon an operating table. His pulse could scarcely be felt, and certainly could not be counted. His intestines were everywhere of a bright rosy red, covered in many places with patches of yellow lymph,

and everywhere fully distended. Semi-purulent fluid flowed from the abdomen when the incision was made, and a good deal more was mopped out. The constriction, a mesenteric band, was discovered in the way described, and easily divided. The bowel was incised, and through the opening, while the abdomen was being kneaded, large quantities of gas and fluid escaped. A continuous suture of fine catgut accurately closed this opening; the bowel was easily returned; the abdominal cavity was mopped out, and the wound sutured in flaccid abdominal walls. You have seen the case recover with no more trouble than any other abdominal section; with less trouble certainly than most cases of herniotomy. One example may be more impressive than much advice. I am sure you will not soon forget the lessons which this case has taught us.

In conclusion, I venture to submit to you these rules, for your guidance, in opening the abdomen for the relief of acute intestinal obstruction.

1. Make the incision in the middle line below the umbilicus.
2. Fix upon the most dilated or the most congested part of the bowel that lies near the surface, and follow it with the fingers, as a guide to the seat of obstruction.
3. If this fail, insert the hand, and carry it successively to the cæcum, the umbilicus, and the promontory of the sacrum.
4. If this again fail, draw the intestine out of the wound, carefully covering it, until increase of distension or congestion or both in one of the coils, gives an indication that the stricture lies near.
5. If there be considerable distension of the intestines, evacuate their contents by incision, and suture the wound. Never consider an operation for intestinal obstruction inside the abdomen finished, until the bowels are relieved from overdistension.
6. Be expeditious, for such cases suffer seriously from shock. The whole operation ought to be concluded in half an hour.—*British Medical Journal*, June 13, 1885, p. 1189.

## 55.—COLOTOMY WITH DELAYED OPENING OF THE BOWEL.

By G. H. HUME, M.D., Surgeon to the Newcastle Infirmary.

At a recent meeting of the Clinical Society of London (March 13th), Mr. Davies-Colley read note of three cases of colotomy in which the operation was done in two stages. In the discussion which followed, opinions strongly favourable to this method were expressed by Mr. Bryant and Mr. Howse. Only one speaker seems to have considered that the operation was rendered more complicated by being divided into two stages, and that it was better in all cases to open the bowel at once. My experience in the two cases here recorded, induces me to add my testimony to that of Mr. Davies-Colley, and to join in recommending that the completion of the operation be



postponed for a few days, in all instances in which this delay is practicable. Every surgeon who has experience of colotomy knows how difficult or impossible it is to keep the wound in a satisfactory state when the operation is done in the usual way. The constant fouling of the wound by fæcal discharge is the source of endless trouble to the surgeon; and to the patient it involves risk of peritonitis, and the certainty almost of deep suppuration and protracted healing. A modification of the operation, which secures union of at least the deep parts of the wound before it is exposed to this contamination, must be, in the truest sense, a simplification, as concerns both surgeon and patient.

The two cases in which I have adopted this method of delayed opening of the bowel were similar in character, and were identical as regards the details and results of the operation.

The first case was that of a man, aged 36, admitted into the Newcastle-on-Tyne Infirmary in the spring of 1884. He was suffering from an intrapelvic growth surrounding the upper part of the rectum, and producing almost complete obstruction. There were occasionally thin, bloody, offensive motions, but no solid fæces were passed; and the recurring attacks of abdominal distension and pain were very distressing. The first stage of colotomy was done on March 17th; by the usual oblique incision the bowel was readily found, and was stitched to the skin by two or three silk-worm gut sutures. Except at the part where the bowel was attached, the wound was brought together by deep stitches of the same material. The operation was done under carbolic spray, and a gauze-dressing applied. The dressing was not removed until March 22nd, and then the wound was found to be entirely healed, except in the area to which the bowel was fixed. At this part there was a thick coating of lymph, which was scraped aside; and the bowel, lifted up by means of a suture, which had been left long for the purpose, was freely opened. There had been no constitutional disturbance following the operation, and no further dressings were required after the opening of the intestine.

In the second case the patient was also a man, aged 36, the subject of malignant disease of the rectum. The first stage of colotomy was performed on January 29th of this year, and the bowel opened five days afterwards. No intermediate change of dressing was needed, and the wound was quite healed, when the first applied dressing was removed.

The relief to symptoms in both cases was great. In the first case an almost painless failure of strength ended in death on June 15th, when the pelvis was found filled with malignant growth, with secondary deposits in the liver. The second patient left the Infirmary on March 19th, much relieved from pain and irritating discharge from the rectum.

In both cases, the full advantage of the operation was experien-

ced as soon as the bowel was opened, without the drawbacks of a wound healing slowly under unfavourable conditions. The postponed opening of the bowel permitted the use of antiseptic precautions and dressings; and experience shows that, as a rule, deep wounds in the loins, such as are necessary in colotomy and in exploratory operations about the kidney, heal readily when kept aseptic, and when healing is aided by the pressure of careful bandaging. In neither case did the stitches, passed through the wall of the intestine, cause any irritation or show any tendency to ulcerate out. The skin and coat of the bowel, on the other hand, were found firmly attached when the cavity of the latter was opened; and the sutures could evidently have been safely left for an indefinite time. So far, therefore, as the experience of these two cases goes, special devices for securing the protruding bowel, in place of stitches, such as the clamp used by Mr. Davies-Colley, or the protected torsion-forceps recommended by Mr. Howse, would appear to be unnecessary.—*Brit. Med. Journal*, May 9.

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#### 56.—ON A NEW SUTURE FOR WOUNDS OF THE INTESTINE.

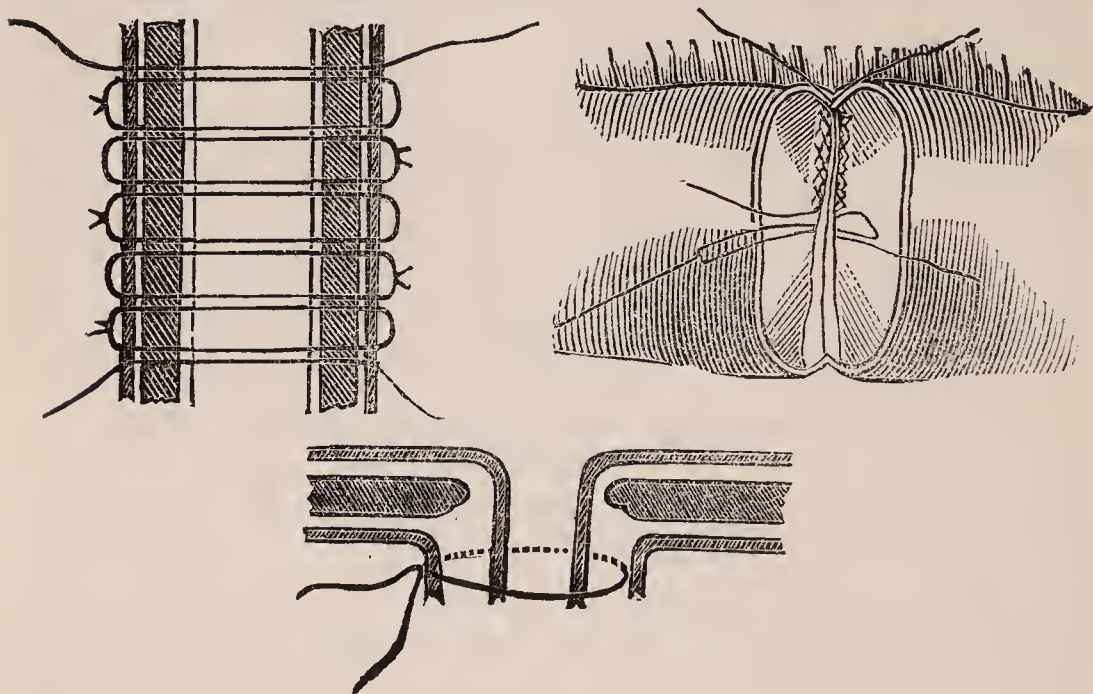
By E. STANMORE BISHOP, F.R.C.S., Surgeon to the Ancoats Hospital, Manchester.

[Mr. Bishop concludes a very interesting historical survey of all the hitherto described methods of intestinal suture, with the following account of his own procedure. It will be seen from the text that the author has not yet had an opportunity for testing the value of his method upon the human subject. The value of Mr. Bishop's paper is greatly enhanced by the introduction of illustrations of all the described methods from the *Méthode de Palfin* down to and including his own operation.]

The loop of intestine being secured in the clamp I had the honour of showing in Liverpool, in 1883, and which I find invaluable, that portion which it is necessary to remove is cut out by scissors, along with a triangular piece of the mesentery, and the mesenteric arteries ligatured; this is carefully done over a flat sponge; the ends left are then thoroughly cleansed and approximated; and, a fresh sponge having been placed beneath, the mesentery is brought together by a few catgut sutures. A small round straight needle, Bartleet's No. 12, is then threaded with fine Chinese twist or silk. This is found preferable to catgut, which has a great tendency to kink and curl, while, as will be seen, there is no advantage in its use. The needle is placed exactly in the centre of the thread, which when double should be about 80 cms. long. Then, with dressing forceps, the lower edge of both sides is seized, and the needle passed from right to left, and through the base of the fold thus formed, as near to the mesentery



as possible; the double thread is then drawn through until 6 cms. remain on the right side. One of the threads on the left side is to be cut 6 cms. long; the needle is then passed from left to right through the same fold, at a distance of 20 mm. from the first puncture. Two free ends and a loop remain on the left side, two ends free and two connected with the needle on the right. By gently drawing upon the loop, one of each of the two last pairs are



(To illustrate Mr. Bishop's method of Intestinal Suture.)

seen to move; these are then drawn up so as to bury the loop in the mucous membrane on the left side, and are reef-knotted on the right; the two ends are then cut off close to the knot. The free thread left in the first puncture is now drawn under the free extremities of the upper bars of the clamp so as to be out of the way, and is reserved for the latter part of the operation. The needle is now carried back again from right to left through the base of the fold, and a similar loop is thus formed, this time on the right, and knotted on the left. In this way, as the suture progresses, a series of loops consisting each of a single thread tied alternately on the right and left sides is formed, the threads of each loop passing through the same punctures as those of its neighbours on each side. It is thus impossible that any part of the intestinal circumference shall be unguarded, except the minute openings made by the needle, and filled by the threads. As every one knows, the mucous membrane swells so easily on injury that it may safely be trusted to prevent any extravasation at these points. Besides, as the stitch is made, it draws in the serous membrane, so that when finished the threads are really inside the restored lumen of the intestine. Moreover, the knots are all inside.

I prefer, when half the circumference of the bowel is united, and having finished the floor, so to speak, to take a fresh needle and thread, and tying one end to one of the free ends of the first thread, which it will be remembered was left behind, to commence again from the mesenteric border, and begin the roof from that point, so always working towards oneself. In drawing up the loop which this forms, care must be taken to bring the knot in its centre directly opposite the middle of the portion of wall included.

On finishing the floor, too, a free thread will always be left: this is taken advantage of in finishing the entire suture, for the last loop is made by tying the two free ends on one side together: the loop thus formed is then drawn up on the other side, folding in the serous coats of both sides, and the knot being made, the two threads left are cut off close, the bowel becoming absolutely closed.

Now, then, I considered that I had found a stitch which absolutely commanded every portion of the wall of the intestine, which was an interrupted one, and of which the knots were inside: the loops too were placed so that they might with the greatest ease, when loose, drop into the lumen of the gut. At the same time, it perfectly approximated the serous surfaces, and appeared likely, by an *écraseur*-like action, to remove the internal fold which was necessarily made at the time of the suture as soon as its purpose was served.

But theory and practice are not always the same, and after gaining some manipulative skill upon pieces of dead intestine, I was confronted in any attempt to go further, as every one else in England is, by our friends the Anti-vivisectionists. Not being as cruel as they, nor daring, had I met with a patient requiring suture of the bowel, to expose a human being in his direst extremity to the risk of an experiment, the result of which I could only guess, I went over to Paris, and experimented there. And, here, I wish to express my sincere thanks and my great indebtedness to the French surgeons, especially Dr. Aigré, of Boulogne, Dr. Poirier, Prosecteur à la Faculté de Paris, and Professor Rochefontaine, of the Hôtel Dieu, Paris, who, whilst condoling with me upon the idiotic restrictions which had forced me to leave England at very great inconvenience to myself, went considerably out of their way to provide me with a laboratory, assistants, animals, &c.

These experiments were perfectly successful. The animals passed normal stools within four days: there were no symptoms of peritonitis. One animal, a dog, died on the fifteenth day from pneumonia, due to a tracheotomy performed in order to obviate spasm of the glottis during curarisation.

I think any one who examines the specimen, the portion of bowel sutured, will agree that the apposition has been perfect, the threads



being entirely enclosed within the lumen of the gut, and that from the outside it is at first difficult to locate the suture. Inside, all the stages through which such a suture passes are well shown. At one point the ridge formed by the inturned edges, and the sutures still in position; at another, the sutures working their way loose; and, further on, no sign of ridge or suture, but a plain mucous surface, with no trace of the previous division. Six inches of ileum were excised in this case.

Another animal, a rabbit, operated upon in the same way, I have had sent over from Paris. It is in splendid health, having borne the journey from Paris to Manchester, and another from Manchester to Cardiff—where it was shown to the Surgical Section of the British Medical Association—and back, without any ill effects. I intend to keep it alive as long as possible in order to note any signs of after constriction should such occur. The portion of bowel excised and resutured in this case was taken from the ascending colon.

In conclusion, I would quote from Armand Despres. “The healing of intestinal wounds by suture is rapid, when the suture does not provoke peritonitis. But it should be understood that it is not the suture itself which is the cause of the peritonitis, it is rather the default of union by the suture which is the true origin, because of the escape of fæcal matters. With this belief, we ought to choose the sutures which assure most exactly the union of the wound.”—*Medical Chronicle*, Aug. 1885, p. 456.

## 57.—OPERATIVE TREATMENT OF INTERNAL HERNIA-LIKE STRANGULATION OF THE BOWEL.

By FREDERICK TREVES, F.R.C.S., Hunterian Professor at the Royal College of Surgeons; Surgeon to the London Hospital.

The operative treatment of intestinal obstruction is most conveniently considered under three heads: (1) the treatment of acute obstruction; (2) the treatment of chronic obstruction; and (3) the treatment of chronic cases that have become acute. Time, however, will not permit a full consideration of the subject; and I think it will be better, therefore, in the present instance, to deal solely with one phase of the affection, and to limit the discussion to the acute form, since it presents the most urgent claims to the surgeon's attention.

The fairly defined collection of symptoms that make up the condition clinically known as acute obstruction may, for our present purpose, be ascribed to three anatomical conditions: (1) to the hernia-like strangulation of the bowel; (2) to volvulus of the sigmoid flexure; and (3) to acute invagination.

*Hernia-like Strangulation of the Bowel.*—Under this former heading, many structural causes of obstruction may be placed. The

following are the most common: strangulation by peritoneal bands of all kinds; strangulation by omental ligaments or cords; strangulation by Meckel's diverticulum, or by an adherent appendix or Fallopian tube; and, lastly, strangulation through slits and apertures. With the last named would be included internal herniæ. In their precise anatomy, these various forms may be, and, indeed are, often very unlike one another. The lack of resemblance, however, is no more pronounced than is the difference between an adherent appendix and an adherent diverticulum, or between these structures and a cord-like adhesion, or an omental band. In every instance, a knuckle or loop of bowel is held and kept in bondage until it is strangulated. The mechanism of the obstruction is in all main points identical with that of strangulated external hernia; the general pathology is the same, and, with some minor modifications, the symptoms are the same. For these reasons, I have ventured to class all these forms of occlusion under the one heading of "hernia-like strangulation of the bowel."

The treatment I would venture to propose is the following. The patient should be placed in bed and kept absolutely at rest. Some relief to the abdominal pain may be given by warm applications to the belly. The primary object in the general management of the patient should be to secure complete physiological rest to the alimentary canal. Physiological activity means increased peristalsis, increased pain, vomiting, and collapse, increased engorgement of the bowel, and an aggravation of the condition of the damaged part. No food of any kind should be administered; the dryness of the mouth and intense thirst may be relieved by sucking ice, or, in instances where this is not well borne, by sipping hot tea. Perfect rest may be brought to the disturbed intestine by means of opium. Some surgeons prefer belladonna; but it appears to me that a hypodermic injection of morphia acts with greater readiness and certainty, and brings about a more complete paralysis of the gut. It must be borne in mind, however, that, by the use of opium, the symptoms are masked, and the administration of that drug should be directed cautiously before the diagnosis has been established. It is as well to have the colon emptied—when occupied by fæces—by means of an enema; and, when once the bowel is stilled by opium, thirst may be relieved by copious enemata of lukewarm water, without producing increased intestinal disturbance. So far for the preliminary routine treatment.

The next step should be an attempt at the relief of the obstruction by laparotomy. I would venture to urge that laparotomy should be performed, when possible, within the first twenty-four hours, provided, of course, that the diagnosis be in its main points clear. The arguments that may be urged in favour of an early interference are these. The course of the malady is rapid; its average duration is six days; its termination is fatal. The final issue



appears to depend not so much upon the age and state of the patient, or the immediate cause of the obstruction, as upon the amount of bowel involved and the rigour of the strangulation. It is to the speedy relief of the dying intestine that all the surgeon's attention should be directed. With regard to the question of spontaneous cure, it is certainly not impossible, but I have been unable to find any recorded case or any museum specimen that affords an instance of it. When once the diagnosis of a strangulated hernia has been established, and taxis has failed, no surgeon, I imagine, is disposed to temporise. The condition of the bowel in these cases is identical with that found in strangulated rupture, and the therapeutic principles that apply to the one should apply to the other. It seems to be tampering with life to waste time over the administration of metallic mercury, and enemata of tobacco and the like. To thrust an aspirator into the abdomen, as some advise, is a stab in the dark, an empirical proceeding that leaves everything to chance. Massage, or abdominal taxis, has its advocates, but the procedure is, at the best, a blind one.

With regard to the performance of the operation, I take it that the incision should be made in the linea alba below the umbilicus, that it should be large enough to admit the entire hand at once, and that it should be made under antiseptic precautions. With regard to the latter point, it does appear to me—speaking only from my own experience—that much of the success of these operations depends upon the observance of the strictest Listerian methods, including the use of the spray throughout the whole of the operation. It is well also that the incision should be a clean cut, and that the use of that uncouth weapon, the steel director, should be discarded. When the abdomen has been opened, the carbolised hand should be cautiously introduced, any protrusion of intestine being prevented by means of a flat warm sponge. One hand should be directed towards the cæcum, and if that part of the colon be found empty and flaccid, it may be assumed that the obstruction is in the small intestine. It is well next to search for the seat of trouble in the right iliac region, about which it is most commonly placed. If the affected loop be not readily discovered, I would strongly advocate Mr. Hulke's plan of feeling for the collapsed coils below the obstruction. These coils are most commonly hanging in the pelvis, and by passing them through the fingers the constriction may be reached without much loss of time. It is needless to point out the difficulty of finding out the point required by simply passing the small intestine in review inch by inch. Such a procedure is as likely to direct the surgeon's fingers to the pylorus as to the obstructed loop. The method also of straightening the mesentery, so as to make out its right and left sides, is of much value in preventing the error first named. I think that the practice of allowing the intestinal loops to protrude, and of then examining them

in detail, is open to serious objections, apart from the fact of its being quite unnecessary. The procedure, is, however, advocated by some surgeons of considerable note. I am in the habit, as soon as the abdomen is opened, of placing a large warm carbolised sponge deep in the pelvic cavity. It is removed just before the operation is completed, and its use certainly economises time and saves much manipulation of the pelvic viscera and intestines by sponging.

Should the bowels protrude, and any difficulty exist in their proper reduction, I would point out that the puncture of the engorged intestine, above the obstruction, for the purpose of relieving distension, is by no means either a simple or a harmless or even a useful addition to the operation. The closures of these punctures in instances where the bowel is much distended, paralysed, and hyperæmic, is, I venture to think, not so certain as is sometimes supposed.

When the obstruction has been found, small bands may be torn across, while larger ones may be divided between two catgut ligatures. An appendix, or a diverticulum, should be excised close to its base, and the opening, so made, closed by Lembert's suture, in such a manner as to bring the serous surfaces into contact. Any persisting slit or aperture may be closed by a few points of catgut, so as to prevent any further trouble at the same spot. The involved bowel, if in good condition, that is to say, if still of good colour, smooth surface, elastic and resisting, may be returned free into the abdomen; but, if it have lost its elasticity, be of dull surface, or visibly gangrenous, I am of opinion that it should be resected, and an artificial anus established.—*British Med. Journal*, August 29, 1885, p. 387.

#### 58.—ON THE OPERATIVE TREATMENT OF ACUTE VOLVULUS OF THE SIGMOID FLEXURE.

By FREDK. TREVES, F.R.C.S., Surgeon to the London Hospital.

Volvulus of any part of the intestinal canal other than the sigmoid flexure being comparatively rare, and chronic volvulus being still more uncommon, it will be convenient, under the heading of volvulus, to limit all observations to the acute twisting of the sigmoid flexure. This species of volvulus forms one-fortieth part of all varieties of intestinal obstruction. Its diagnosis is not obscure, and there is indeed little difficulty in differentiating it from all other forms of acute occlusion, save that due to the kinking of the loaded sigmoid flexure above some stricture at the commencement of the rectum. So far as I can ascertain, there would appear to be no prospect of spontaneous recovery in these cases when once the twist has become complete. The average duration of life in 20 cases that I collected was six days, and



the usual cause of death would appear to be peritonitis, which is apt to set in somewhat early in the case.

The treatment of volvulus of the sigmoid flexure involves many points of serious difficulty. I take it that, in the first instance, the treatment by rest and starvation would be insisted on as a matter of routine. Opium would be administered, and it may be as well to empty the rectum by an enema. With regard to more active interference, I believe that all attempts at relief by means of enemata or rectal tubes are likely to prove, not only quite useless, but actually harmful. If the precise relation of the parts be borne in mind, it will be perceived that a forcible injection into the rectum will tend to tighten rather than to relax the twist. In one subject, who had died of an unrelieved volvulus, I found that, when the twist had been nearly reduced on the post mortem table, it could be made to reappear by injecting water into the rectum.

Simple laparotomy, it must be confessed, is not a very promising procedure in these cases. In the first place, the distended coil often reaches to the ribs, or even to the diaphragm, and by no ordinary incision could the great loop be dealt with. Through such an incision, however, a volvulus may be reduced with success, as shown by a case reported by Mr. H. Clark (*Lancet*, 1883). If the abdomen be opened, I would suggest that the gut be reduced in size by a puncture with a capillary trocar, and then that attempts be made to replace the distorted flexure. This procedure may succeed, and it is possible that the surgeon may convince himself that the probability of a return of the volvulus would not be very considerable. In actual practice, however, I anticipate that the trocar will not sufficiently empty the loop to render it easy to be handled; and that, after the reduction, the operator will have reasons to believe that, if no further steps be taken, a return of the twist will be exceedingly probable.

In any future case, therefore, that may come under my notice, I intend to adopt the following operation: to perform a laparotomy in the middle line, to puncture the gut, and attempt its reduction; if this fail, or the result appear unsatisfactory, to evacuate the involved gut through an opening in the summit of the flexure, to unfold the volvulus, and to establish an artificial anus, using the opening just alluded to for that purpose. By this method, the volvulus could be relieved in a very short space of time, and without much handling; and the distended colon above the twist could empty itself through the artificial anus. Inasmuch as this artificial opening would be at the summit of the sigmoid flexure, a return of the volvulus would be impossible. The flexure would be permanently retained in good position by means of the adhesions that would form about the faecal fistula. In process of time, the artificial anus may be closed by one or other of the operations adopted for that purpose. It may be unnecessary to point out that

there is no anatomical difficulty in establishing an artificial anus leading to the sigmoid flexure through the middle line of the abdomen. The operation just alluded to is little more than a simple colotomy, since the manipulation of the bowel antecedent to the opening of the colon need not be prolonged. One thing is certain: that these cases of acute obstruction demand very prompt treatment. The rapidity with which peritonitis sets in, in the present form of occlusion, is very striking; and there is, moreover, great risk of the involved loop passing into a state of gangrene. A left lumbar colotomy in these examples of volvulus would certainly relieve the obstruction; but it would probably effect no change in the volvulus, and there would be great likelihood that the artificial anus established would have to be a permanent one.—*British Medical Journal*, Aug. 30, 1885, p. 389.

#### 59.—ON THE OPERATIVE TREATMENT OF ACUTE INTUSSUSCEPTION.

By FREDK. TREVES, F.R.C.S., Surgeon to the London Hospital.

The chief point of interest in connection with this form of obstruction is concerned in the question of the frequency of spontaneous relief; and the matter that presents itself most prominently to the surgeon's notice, relates to the reliance that is to be placed upon the prospect of such relief. This form of obstruction is quite common, and forms, indeed, no less than one-third of all known varieties of the affection, excluding hernia and obstructions due to congenital defects. The acute cases are defined as those that, if they follow an uninterrupted course, end in death within seven days. These form about 50 per cent. of the whole number of invagination cases. It is well also to bear in mind that the enteric and the ilio-colic forms are most usually acute, and that 50 per cent. of all the examples of the disease are met with in patients under 10 years of age. Spontaneous cure may be met with under two circumstances. In the first place, the invagination may reduce itself before the period has been reached when, from structural changes, it has become irreducible; and, secondly, spontaneous cure may occur after the invagination has become irreducible, either by the formation of a faecal fistula above the obstruction—a form of relief that is very rare—or by the elimination of the gangrenous intussusceptum.

To enter at once into the treatment of acute invagination; I imagine that general approval will sanction the immediate use of opium or belladonna, together with practical starvation and perfect rest. By these measures, the peristaltic movements are stilled, the irregular muscular action in the bowel that has provoked the malady is arrested, and the prospect of spontaneous reduction is greatly favoured.



Presuming that no benefit attends this mode of treatment at the end of twelve hours, it will be expedient to attempt reduction by means of insufflation or forcible enemata. Considerable success has attended these measures. By far the best instrument for the purpose—whether either water or air be used—is the admirable insufflator invented by Mr. Lund. I think that, in children under 10 years of age, the injection should be cautiously administered while the child is under the influence of an anæsthetic; but in patients above that age, it is perhaps safer to carry out this treatment without chloroform. There is no doubt that, in adults, the best guide to the amount of force to be used is the patient's own sensation. In any instance, the colon should be distended gradually. When the bowel is fully distended, the air or water should be retained for at least twenty minutes. The injection may be accompanied by gentle kneading of the intussusception-tumour, when such exists. I think that it is a matter of primary importance that the bowel should have been rendered quite quiescent by means of opium or belladonna, before the attempt at reduction by injection is commenced. I cannot understand upon what mechanical principles inversion and shaking of the patient are recommended in these cases. Before such a method were adopted, the exact position and extent of the invagination would have to be most accurately diagnosed.

It is obvious that these measures will have no effect when once the invagination has become irreducible. It is to be regretted that, at present, little is known of the precise circumstances under which such irreducibility takes place. It is known that the invagination may become fixed within a few hours of its formation, and it is needless to remark that adhesions play comparatively a small part in causing an acute invagination to become irreducible. Should the measures so far advocated fail after a patient trial, I would strongly urge that a laparotomy be at once performed. If enemata fail early in the case, they are not likely to succeed at a later period, and every hour that elapses renders the prospect of gangrene more immediate.

Against laparotomy in these cases many objections have been urged. In the first place, it is pointed out that an acute attack may become a chronic one. This is true, but the occurrence is very rare. By far the greater majority of the patients do not live long enough to enter upon the chronic stage. Moreover, chronic invagination is exceedingly fatal, and out of 59 recorded cases, taken without any selection, I find that there were no fewer than 51 deaths.

A far more important objection, however, depends upon the frequent occurrence of spontaneous cure, at a period when the patient is *in extremis* and the case desperate. Temporising is constantly being urged upon this ground. One case of spontaneous

cure is an argument against a score of proposed operations. An examination of the matter shows that little dependence is to be placed upon this mode of ending. "Elimination of the gut by gangrene occurs in about 24 per cent. of all cases, but when it has occurred it by no means follows that the patient recovers. In fact, no less than 40 per cent. of the subjects of spontaneous elimination die of the immediate results of the process of separation. Moreover, during the first year of life, spontaneous elimination occurs in only 2 per cent. of the cases, and between the ages of 2 and 5 in only 6 per cent.; and, when it is remembered that more than 50 per cent. of the total number of examples of intussusception occur in children under 10, it will be seen that elimination by gangrene offers no very extensive prospects of spontaneous relief. It is true that the older the patient the more chance has he of a recovery by this means; but it unfortunately happens that the older the patient the higher is the mortality after the occurrence of the elimination, so that the chance of cure becomes remarkably slight" (Intestinal Obstruction). In favour of the operation, it must be pointed out that the affection is very acute, that the general mortality of the disease is 70 per cent., and that 80 per cent. of the patients die before the seventh day. I would venture to urge that in these acute cases, laparotomy should be performed at least within the first 48 hours, and if possible within the first 24 hours; provided, of course, that all other measures have failed.

When the abdomen has been opened, the invagination should be reduced if possible. The reduction is best effected by squeezing the intussusception with one hand, while gentle traction is brought to bear upon the gut entering the invagination with the other. Should the mass be found to be irreducible, or in a condition that threatens gangrene, the whole of the involved bowel should be resected, and a temporary artificial anus established. It appears to me that there is little to recommend the operation of enterotomy for this class of case. This procedure is certainly readily performed, but it is of the nature of a cut in the dark. It will relieve the obstruction symptoms, it is true, but it will leave the invagination untouched, and leave it possibly to pass on into a state of gangrene, or a condition that may lead to diffuse peritonitis.—*British Medical Journal*, Aug. 29, 1885, p. 389.

#### 60.—ON RESECTION OF GRANGRENOUS GUT IN STRANGULATED HERNIA.

By W. MITCHELL BANKS, F.R.C.S., &c., Liverpool.

There are some surgical conditions of great gravity, which, although they are tolerably frequent, yet by reason of not being urgent do not come under the notice of the rank and file of sur-



gical practitioners, but gravitate into the hands of a special few. But it may occur to any surgeon at any moment to operate upon a case of strangulated hernia, and, when he has opened the sac, to find there a piece of gangrenous gut which cannot be returned into the abdomen. To come as near as possible to a definite rule of procedure in such cases would obviously be of great advantage. I, therefore, venture to ask your attention to two points:—(1) The consideration of what is the best thing to do, if it be determined to leave the gut where it is; and (2) the consideration of the advisability of excising the gangrenous piece of bowel, restoring its continuity and returning it into the abdomen. Having been fortunate enough to have a case in which I successfully adopted the second proceeding and resected the intestine, it may be best to give the details of that case first.

On November 7th, 1883, a healthy vigorous young man, aged 25, was admitted into the Infirmary suffering from strangulated inguinal hernia on the right side. He had been the subject for a considerable time of a rupture, but had never worn any truss. While at sea, two days before coming into port, in consequence of some extra exertion the hernia descended and could not be returned. He went to his bunk and suffered from vomiting, inability to pass flatus, and twisting pain round the umbilicus; in short, he had the usual symptoms of strangulation. The surgeon of the ship endeavoured to reduce the hernia, but in vain, and the patient himself used very violent but fruitless efforts to the same end. So on the third day after strangulation commenced he was sent to the Infirmary, and I saw him almost immediately after he was put to bed. He was quite tranquil, and without any anxious expression. His pulse was about 80, and he had no fever. He looked, indeed, as if there was very little the matter with him, only he retched constantly at short intervals. Under ether and with antiseptics, I made a long incision from above the inguinal ring down to the base of the swelling, finding the skin and subcutaneous tissues infiltrated with bloody serum. The sac was then dissected out, but as the hernia was found to be a congenital one this could only be done partially. The sac being opened, a quantity of dark bloody fluid with some blood clots was turned out, and then a long loop of small intestine appeared. My colleagues unhesitatingly agreed with me that the bowel was in a state of gangrene, and that its return into the abdomen was impossible. We also at once agreed that the case seemed a fair one in which to try removal of the dead intestine in preference to merely opening it and making an artificial anus. A stricture caused by the external ring was quite apparent, and, this being divided, the bowel was pulled down until a sound part was brought into view; but in so doing it was found that above the site of the stricture at the external ring there was a hole in the side of the bowel large enough to allow a pea to pass.

This ulcerated aperture had evidently been caused by a stricture higher up than the one at the external ring, probably at the neck of the sac. A guard of carbolized gauze was adjusted in such a manner that no blood or other fluids should get into the abdominal cavity, and then a good piece of sound bowel having been pulled out, this was cut through about an inch from the gangrenous part on either side. Then a wedge-shaped piece of mesentery was excised corresponding to the bowel. Blood was effused throughout it, and its glands were swollen and soft, so that we feared lest some septic influence might have crept along it. All that appeared bad was therefore cut out nearly up to its attached margin. The bleeding from the mesentery and from the cut ends of the gut was most profuse, and quite a score of fine catgut ligatures were applied before it was finally stopped, a most wearisome process. The peritoneum of the mesentery was united by a continuous suture of catgut first on one side and then on the other. Then the ends of the gut were turned inwards for about a third of an inch, so that peritoneum should come against peritoneum. As far as I could possibly go I put interrupted stitches all the way round inside the bowel, bringing the inverted edges together. Next, on the exterior a continuous suture was taken all round, passing only through peritoneum. This, I believe, is practically what goes by the name of the Czerny-Lambert method of suture. As everybody finds, the most difficult part to close was just along the mesenteric attachment, where there is an area which is uncovered by peritoneum, and here, without doubt, danger of leakage is most to be feared. Having completed the union of the bowel I next attempted to reduce it, but found that as the incision and stitching had considerably thickened it, it was necessary to divide the inguinal canal pretty freely, so that the stitching might not in any way be strained. The gut having been replaced in the abdomen, the sac was then tied with two catgut ligatures well up at its neck. Below this it was cut across and a piece removed, leaving enough to make a tunica vaginalis for the testis. I would next have put silver sutures across the pillars of the ring, but the patient began to be very weak, and I thought it best to close the wound and dress all up as rapidly as possible. The operation occupied over two hours. Drainage tubes, and a dressing of sponge under carbolized gauze, were employed. In a few hours the patient had recovered from the collapse which immediately followed the operation, and at midnight he passed flatus.

After the second day his pulse was never above 100, and his tongue was always moist. Fortunately the patient was a man of a placid temper and no little fortitude, so that for a week he lay upon his back without moving an inch in any direction. For the first four days he was only permitted to suck small pieces of ice, and then he was allowed twenty minims of Valentin's meat juice



in two teaspoonfuls of water every five or six hours. On this he got along pretty well until the twelfth day, his strength being maintained by absolute rest, warmth, and regular small doses of opium.

At the end of about six weeks the patient was quite well, with his wound healed, eating any kind of plain, easily digested food, and I saw him some months afterwards. He was in robust health, and had been out on a voyage as cook on an Atlantic steamer. He could not notice any difference in his digestive actions from his condition previous to the operation. His hernia was cured, and he wore no truss and had no impulse on coughing. I heard of him the other day, seventeen months after the operation, as holding a situation in Canada, and being perfectly well. A sufficient period has now elapsed to enable one to say with confidence that no reasonable fear of stricture occurring at the point where the bowel was joined need be entertained.

It may not be amiss to note what were the reasons which induced me to adopt this operation, and what were the chief circumstances which led to its favourable termination. I was encouraged to remove the dead gut, in place of merely making an artificial anus, by the patient being a healthy, vigorous young man of 25, and by his general condition being very favourable in spite of his having several inches of bowel in a gangrenous state. Then again, although the scrotum was in such a bad condition that superficial sloughs separated from it after the operation, still when the incision was made there was no suppuration in the cellular planes, and when the sac was opened it contained only bloody fluid and clots, but no putrid pus as is the case where the operation has been long delayed, and where nature is making an effort to convert the whole thing into an abscess. Had there been stinking pus in the sac I would have feared lest putridity would have escaped into the peritoneal cavity during the prolonged operation. As it was, the sac was first thoroughly cleansed of all clots and bloody fluid, and was finally tied and cut away. Lastly, the operation was done in daylight, and with every possible assistance at hand, which is a very different thing from attempting the same matter in private, at night, and with but scant help. I had, therefore, an excellent subject to work upon, with all the accessories that could help to make the operation successful.

As regards details of treatment, I cannot say I found any great difficulty in uniting the ends of the gut. I used carbolized catgut as a suture, but I dare say Chinese silk would do even better. It seems hard to imagine any more efficient method of stitching than that used, which has the effect of firmly maintaining in apposition two peritoneal surfaces until they permanently adhere; while in this case, at any rate, after nearly a year-and-a-half there had been no signs of injurious after-consequences from narrowing of the

bowel. From the experience of a single case I would not venture to pronounce upon the necessity or not of mechanical apparatus to constrict the ends of the bowel, but certainly in this instance the intelligent fingers of an assistant were equal to the emergency. At the most, some form of forceps with parallel acting blades, covered with india-rubber, should suffice, while the various devices for stuffing the interior of the gut seem quite unnecessary, and are seldom found capable of application in sudden emergencies. Concerning the cutting away of a wedge of mesentery, I felt obliged to remove a very considerable portion on account of the fact that it was infiltrated with blood, while its glands were enlarged and swollen, so that I feared it might be in a septic state; but there can be no doubt that the very numerous vessels which had to be tied added not a little to the time consumed in the operation. Doubtless the less the mesentery is cut into the better. It will be noticed that for four days the patient had no sustenance whatever beyond a little ice, while for eight days more he lived on about two teaspoonfuls of Valentine's meat juice per diem. But as he had no pyrexia to waste his tissues, while at the same time he was kept in a sort of hybernating condition, by opium, it was astonishing how little flesh he lost.

As there is nothing new under the sun, one is not surprised to find that the first recorded case of resection of gangrenous gut in hernia was done by Ramdohr in 1727, about 160 years ago. A very great service has been rendered to the literature of this subject in our own language by Mr. Makins, of St. Thomas's Hospital, who has made a table containing the results of the operation in 55 cases, bringing them up to 1884. (See *Retrospect*, vol. 91, p. 35.) Of these 45 have been done within the last ten years. Out of the whole 55 cases there were 29 deaths, a percentage of 52·7, the cause of death in the majority being septic peritonitis. The operations have been performed almost entirely by German surgeons, very few cases having been attempted in England. Doubtless, this has arisen from the general caution which characterises English surgery, and which induces us to look with some suspicion upon any procedure which has very obvious dangers and whose advantages have not been clearly demonstrated, so long as we have a method with the utility of which we are familiar. Sir Astley Cooper performed two cases, which, however, were not successful; and in 1794 Mr. Nayler, a provincial surgeon, excised a piece of gangrenous bowel, and, reuniting the gut, left it in the wound outside the abdominal cavity. The stitches yielded and a fæcal fistula resulted. Mr. Rushton Parker, of Liverpool, has operated upon two cases, one an inguinal, the other an umbilical hernia, but both patients died. In both instances, the proceeding adopted was identical with that just described, and it was found after death that no leakage from the



bowel had occurred, the patients dying from exhaustion and septicæmia. I understand that Mr. Sydney Jones has operated recently upon an umbilical case, but unfortunately it proved fatal. I cannot find any other records of the operation in England, although doubtless other cases have been operated upon. Gross mentions a case done by Byrd in America.

In addition to the table just mentioned, Mr. Makins has also collected statistics of about 40 cases of resection of the intestine for the cure of artificial anus, and it is very important to notice that the percentage of deaths is only 38 per cent. as against 52 in those done for hernial gangrene. Of course this is accounted for by the general condition of the patients in the two classes of cases, which must always be very different, and which will always render the operation done for the relief of artificial anus safer than the other. From which it comes to pass that we have to consider which is the better plan; to procure a patient an artificial anus, and cure him of that subsequently by the use of the enterotome or by a less fatal form of bowel excision, or to subject him at once to an operation, more fatal it is true, but which in all other respects manifestly has the advantage.—*Medical Times and Gazette*, May 2 and 9, 1885, pp. 567, 602.

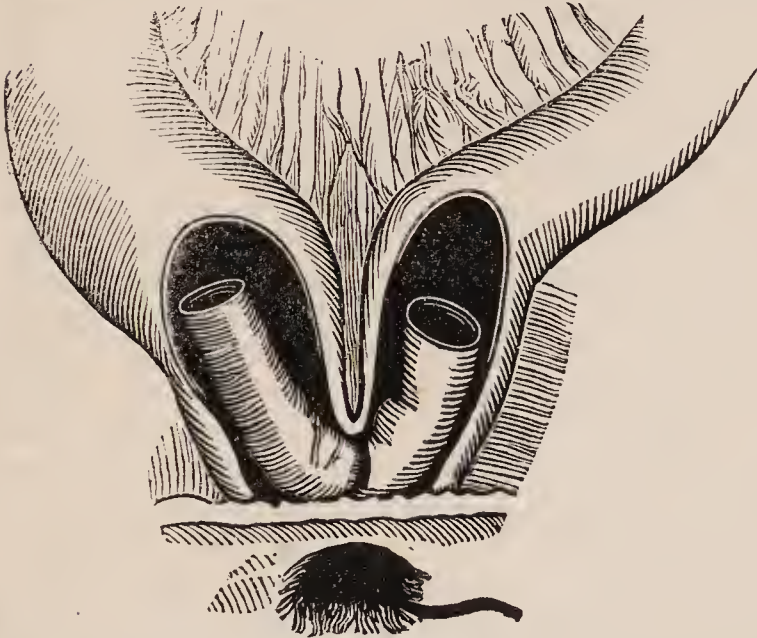
#### 61.—ON THE TREATMENT OF GANGRENOUS GUT IN CASES OF STRANGULATED HERNIA.

By W. MITCHELL BANKS, F.R.C.S., Surgeon to the Liverpool Royal Infirmary.

[The remainder of the paper of which the preceding article is an almost verbatim reproduction, is devoted to the consideration of the treatment of gangrenous intestine by the older and more expectant methods.]

I would now turn to the other question, What is best to be done if it is determined to leave the gangrenous bowel *in situ*? This has reference chiefly to division of the stricture. Up till about seven years ago, I had not kept any notes of my hernia cases, but since then I have done so, and find that I have records of six cases of gangrene, exclusive of the one in which excision was performed. In all these six cases the same plan was adopted, viz., simply to lay the gangrenous gut open, and not to interfere in any way with the stricture or anything else. Perhaps the best way will be briefly to note what happened in these six cases, and then to review the treatment. Three lived and three died. Taking the successful instances first, case No. 1 was an inguinal hernia in a tough, hardy farm labourer, of about 40. There was a very long coil of dead gut. In time all cleared up, and a fæcal fistula remained which, after the lapse of months, closed soundly. I saw him about two years after the operation quite well, but with a dis-

ting return of his rupture, for which he had to wear a truss. After all the sloughing and cicatrisation which went on, it seemed very singular that the bowel should have descended again, but so it was. Case 2 was a femoral hernia in a great fat woman of 56.



The tissues were full of stinking pus, sac and all. Great masses of putrid omentum were cut away, and a knuckle of dead bowel slit open. A false anus resulted, and after about three months had been allowed for this to contract as far as it would spontaneously, I

commenced treatment. Under ether I pushed a thick piece of rubber tubing into the hole, and guided one end up the higher part of the intestine and the other down the lower, so that it should press against the spur. A string attached to it, and coming out of the aperture, kept it from being carried down the canal. This tube was replaced by a smaller one after a while, but a tube of some sort was kept in for a month, with the result that fæces began to pass down the proper way, while the false anus rapidly contracted and became so small that the tube was with difficulty got out. A small fæcal fistula then remained, which closed spontaneously in about three months. The patient remains well, and has no return of her hernia, although she works hard as a washerwoman. In some "Clinical Notes" which I recently published, I drew attention to this method of pressing on the spur, which in this case seemed to give very great help indeed. Case No. 3 was a femoral hernia in a thin woman of middle age. There was only a small knuckle of bowel involved. There remained a false anus with a very sharply marked spur. The orifice contracted so rapidly, however, that by simply putting a cork upon it and compelling the fæces to pass round the right way it closed up. The patient was at home for some time quite well, when she neglected her bowels, and allowed herself to become seriously constipated. As a result the fistula slightly opened, but soon closed again with rest, padding, and attention to the evacuations. These three cases, then, were eminently satisfactory. Of the three fatal cases, one was an inguinal hernia in a feeble, broken-down man, and another



was an umbilical hernia in a very fat woman. Both patients were in a miserable plight, and both died from exhaustion and septic absorption within twenty-four hours. They were moribund when operated upon, and would have died whatever had been done with them. But the third fatal case, which occurred only recently, was the one that made me begin to consider whether the method of treatment I had been adopting was the best that could be found. The patient was a middle-aged man of intemperate habits, and not a good surgical subject. The hernia was an inguinal one. The tissues on the way down to the sac were infiltrated with pus, and the sac itself contained stinking pus, while the gut was very bad, and had given way in two or three places. It was slit up, and a charcoal poultice put on. Before twenty-four hours were over, flatus and fluid fæces were passing readily. At first the patient had nothing but ice and opium. For some days he seemed to go on admirably, without the slightest fever and in perfect comfort. On the morning of the sixth day he suddenly experienced terrible abdominal pain, and went into a state of collapse. I saw him very soon after this. He was quite sensible, although in great suffering, able to speak and move easily, but deadly cold, and with a chilly sweat on his brow and no perceptible pulse. I laid hold of what bowel could be caught at the top of the wound and pulled it down. On one side was a perforation. Opening up the ring with my finger, fluid fæces poured out of the abdominal cavity. In an hour or two the patient was dead. After it was believed that everything around the abdominal orifice was firmly agglutinated together, the gut, cut into by the stricture, had given way just inside the inguinal ring, the plastic barriers had been swept away, and the fluid contents of the bowel had poured into the peritoneal cavity. I dare say the same thing might have happened to the patient in whom I excised the bowel if, in place of doing this, I had left it *in situ*, and merely slit it up, because it will be remembered that after we had divided the stricture at the outer ring, on pulling the gut down, it was found cut into higher up either by the neck of the sac or at the inner ring.

The questions, then, that occur to one when it has been decided to leave a piece of dead bowel *in situ*, are (1) What is to be done with the gangrenous bowel? Is it to be left alone, or is it to be slit up, or is it to be cut away? (2) Is the stricture to be divided or not? (3) If the stricture is not to be divided, is the bowel to be left exactly as it is, or is a sound fresh piece to be pulled down into the stricture? In answer to the question of whether the gut is best slit up or cut away or left untouched, I do not think it a very vital one, but I have always slit it up because it lets it drain from all its juices more rapidly than if left alone. In truth, it is

not a matter of much importance what you do with the dead bit of gut. Under all circumstances, with the aid of a poultice it will have crumbled away in thirty-six hours. The really important question, and one that is debated even now, is whether to interfere with the stricture or not. Among the older authorities we find Sir Astley Cooper, Key, and Dupuytren recommending that the stricture should be divided. Among more modern surgeons Erichsen agrees with them. The late Professor Miller held that the sloughing bowel should be incised, and that the neck of the tumour should be freed by division of the stricture with as much care as if the whole were fit for reduction. Mr. Bryant recommends careful division of the stricture with the view of allowing the intestinal contents to escape. On the other hand, Lawrence and Travers advised that the stricture should be left alone lest the barrier of lymph by which nature glues the gut to the abdominal wall just within the ring should be broken down, and so poisonous material allowed to travel up into the abdomen and excite a septic peritonitis. Mr. Syme held this view strongly, and says in his "Principles of Surgery":—"The surgeon should either leave the contents of the hernia as he finds them or limit his interference to laying the gut freely open if it is not so already." Mr. Birkett, arguing on the same lines, says:—"Before the operation, adhesions will have formed between the coils of bowel in the abdomen as well as between them and the parietal peritoneum in the vicinity of the margins of the mouth of the sac. It would be very injudicious interference with the processes of nature to break down these adhesions."

My own very strong opinion is that the stricture should be left alone, and, as I have mentioned, this practice was carried out in the six cases alluded to. From what do patients die after operations for strangulated hernia? From peritonitis, say the books. The sooner this misleading statement is expunged the better, inducing the medical public to believe (as it does) that they die from some violent general inflammation of the peritoneum. They do not die from peritonitis in that sense: they die from absorption of septic material introduced into the peritoneal cavity. Many years ago, when I was pathologist at the Liverpool Infirmary, I examined the bodies of a good many people who died after the operation for strangulated hernia, and in whom the replaced bowel had not given way. There was a serious mortality then, being before the period when we began to stitch up the sac with catgut, or, as we do now, to cut it clean away and tie it up at the neck. I used to find the external wound putrid and with sanious fluid running up its track. But there was no violent general peritonitis—usually only a little glueing of some coils of bowel together near the abdominal opening, with some lymph on the neighbouring parietal portion. I will be bound to



say that three out of four women who have a perimetritis have a far more extensive amount of peritoneal inflammation than one ever sees after a fatal hernia case. No! it is not inflammation of the peritoneum that is the fatal factor, it is poisoning of the peritoneum. And hence, I maintain that any dividing of the stricture, involving as it does the risk of opening a passage into the peritoneal cavity from the putrid external wound, is apt to provide a channel for the subsequent leakage of septic materials into that cavity. Coming to deal with the argument that it is necessary to divide the stricture, otherwise the contents of the bowel (flatus and liquid fæces) cannot obtain an exit, I contend that, in the first place, this is not true, and that, in the second place, an immediate escape of these contents is not imperatively necessary. When leaving the stricture untouched I have made a point of saying to students or house-surgeons who might be about—"Now I dare say you wonder how the flatus and fluid fæces in the gut are going to escape; wait quietly, and in less than twenty-four hours they will come of their own accord." It is the old story of the ring on the swollen finger. You can cut the ring with forceps and relieve the mischief, or you can squeeze all the blood and juices out of the finger and the ring will come off. The hernial stricture is practically a rigid ring. The reason why we cannot reduce the gut is not because the ring has got smaller, but because the gut has got bigger. Slit up the gut, take off all tension, and let its juices run out, and there will soon be plenty of room for flatus and fluid fæces to escape. Again, an immediate escape of these contents is not imperatively essential to the patient's safety. Doubtless pain and vomiting and distension of the bowels are important agents in accelerating the fatal termination of an unrelieved hernia; but by themselves they would not kill. Look how long patients with chronic obstruction live without either flatus or fæces getting vent! The really deadly thing is the existence of a gangrenous slough shut up in the economy and poisoning it. Lay bare this dead material and bring it to the surface, and you remove the great agent of destruction. A little further constipation will not kill the patient, provided you have given vent to the poison before he has absorbed too much. I therefore hold to the opinion that there is no necessity for dividing the stricture, while there is positive risk in so doing.

But the experience of my last fatal case was this. From the moment the external tissues were laid open and the sloughing bowel slit up, the patient's pain and vomiting ceased, while speedily flatus and fluid fæces escaped in abundance. For six days he progressed in the most favourable manner possible, and we confidently expected his recovery. But the gut had been deeply cut into by the stricture before the operation. The glueing process on the inner side had unhappily not been strong enough, and when,

under the excitement of a little nourishing fluid food, the bowels began to move about, the feeble barrier gave way and the fatal escape ensued. Now, the late Professor Spence was a man who lived a long surgical life, who had a special liking for hernial operations, and who had a vast experience in them. His teaching was this: "I divide the constriction freely and draw down the gangrenous portion of gut beyond the stricture, and leave it in the wound merely covered by lint soaked in warm water. Some hours afterwards I open the gut and cut off the gangrenous portion so as to allow the fæces to escape. By that time lymph has been effused around the protruded gut, and the risk of fæculent fluid passing back into the abdomen is very much lessened." It seems to me that the plan of bringing a fresh bit of gut into the abdominal opening has certain advantages, but can it be done without dividing the stricture? I strongly believe it can. I have more than once pulled down bowel, and looked at the neck before dividing the stricture, hoping to get it back by merely boring a little with the finger. So that it is not improbable that one could do this very often. By gently drawing down a sound piece of gut into the stricture, one might keep the way into the abdomen thoroughly blocked, while the protecting lymph on the inner side need not be much disturbed. At any rate, one would disturb it less than by thrusting a finger up by the side of the bowel and dividing the stricture with a knife. It would have, if successful, the great advantage of obviating such an occurrence as a giving way of the bowel just inside the ring. I have a strong idea that a sound piece of gut pulled into the ring, even with the stricture undivided, would not necessarily be injuriously compressed, provided the dead part beneath were freely exposed and either cut open or cut away. But upon this point I am only theorizing, and the whole subject of hernia is one upon which mere theories need not long be held. Next to certain forms of obstetrical operations, it is probably capable of being treated more upon definite rules than any other surgical disease. That is to say, rules can be laid down by which any country practitioner may treat his case on as good and safe grounds as the most accomplished hospital surgeon.

It has long appeared to me, then, that some definite agreement should be arrived at as to what is to be done with gangrenous bowel, and notably that the question of division or non-division of the stricture, modified or not by the drawing down of a fresh piece of gut into the hernial opening, should be settled. With the exception of the case of resection, my own experiences are of no moment, and I have given them, not with the idea that they are of any value in themselves, but as an excuse for obtaining from men of much wider experience than myself their views upon a surgical



proceeding which may have to be performed by any medical man, and the application of which admits of no delay.

In a general way, then, I venture to submit for criticism the following conclusions:—

(1) That when gangrenous gut is discovered in a hernial sac, no attempt whatever should be made to divide the stricture.

(2) Practical experience is required to determine the expediency of drawing down into the hernial opening a fresh piece of bowel.

(3) That the cases appropriate for resection of the gut must be very few, requiring, as it does, that the patient should be young and vigorous, with abundant reparative power; that the hernial sac should not be full of putrid pus or evacuations from a perforated bowel; and that the operation should be done in daylight, and with competent assistance and antiseptic precautions. So far the statistics of resection of gangrenous bowel show a mortality of 52 per cent., whereas by making an artificial anus all the patient's immediately dangerous symptoms are relieved, while he has a chance of subsequent cure (*a*) by spontaneous closure of the aperture; (*b*) by the use of the enterotome or the rubber tube; and (*c*) by the employment of resection at a later stage, the statistics of which show a mortality of only 38 per cent.

(4) That in resecting the bowel it is not necessary to have any apparatus to distend it, and that while the fingers of an able assistant will generally serve to control the divided ends, it may be necessary to use some simple clamping instrument having parallel blades and covered with rubber.—*Medical Times and Gazette*, May 9, 1885, p. 603.

## 62.—ON THE OPERATION FOR THE RADICAL CURE OF INGUINAL HERNIA.

By JAMES HARDIE, F.R.C.S., Surgeon to the Manchester Royal Infirmary; Lecturer on Surgery, Owen's College.

The majority of surgeons appear to be coming to the conclusion that, of the various operative procedures which have been devised for the cure of inguinal hernia, that of ligature of the neck of the sac and approximation of the pillars of the canal, after exposure of the parts by open incision, is to be generally preferred. At an important discussion on the subject, in the beginning of this year, Mr. Spanton, in his opening paper, while giving preference to his own operation in the case of small herniæ, nevertheless was inclined to believe that for other cases it is best to adopt the open operation.

As regards the method of performing this operation, there are some points to which I wish to direct attention, inasmuch as my practice is different from that which would appear to be usually followed, and I believe that the modifications I have been led to

adopt will be found to be material improvements. I have records of seventeen operations performed during the last two and a half years, for the radical cure simply, and I have also performed the operation in a few cases of herniotomy for strangulation, the exact number of which I am unable to ascertain.

Firstly, as regards the application of the ligature. The usual practice would appear to be to place the ligature strictly and carefully around the neck of the sac alone. In my earlier cases I pursued this practice, but I found that, after a few weeks or months the hernia began to re-appear at the upper part of the canal, and gradually to show unmistakable signs of becoming larger. This I attributed to the slightness of the cicatrix in the serous membrane. In one case the cicatrix gave way altogether, and the hernia descended beyond the external ring, without any proper sac. It may be said that if the pillars had been securely sutured this would not have occurred. Possibly there may have been some imperfection in this respect; but still there can be no doubt that the essential requirement in this operation is closure of the neck of the sac itself. However well the pillars may be drawn together, if the entrance to the sac be not effectively sealed up, the re-appearance of the hernia is only a question of time. Mr. Banks lays particular stress on the necessity of so dealing with the neck of the sac that there shall be no depression on the abdominal side, which may afford an opportunity to the wave-like impulse of the intestines to force out a pouch anew, rightly insisting, as I think, on the secondary importance of the resistance of the overlying structures. It appeared to me, on reflection, that the application of a ligature around the mere neck of the sac itself, or, still less, cutting it across and suturing it, could scarcely fulfil what was expected of it. It is on the inflammatory material, by its welding together the structures into which it is effused, that we rely to form a barrier to the hernial protrusion; but the amount of this material thrown out, under such circumstances, by a thin structure like the peritoneum cannot be very considerable, nor can the resistant power of the barrier so formed be very great. To this cause, then, I assigned the unsatisfactory result I obtained in my earlier cases, and I think I should not be far wrong if I attributed to it a large share of the difficulty which others have experienced in recognising the propriety of the term "radical cure," as applied to this operation. But, whether that be so or not, it appeared to me that to secure a larger amount of inflammatory exudation would be calculated to improve the results. For some time past, accordingly, I have been in the habit of applying the ligature, not only around the neck of the sac, but around the transversalis fascia as well. This is generally a tolerably dense and easily recognisable structure, and between it and the sac there is also an appreciable quantity of cellular tissue. It is not necessary, I think, to be par-



ticularly careful to surround this fascia with anatomical precision. What I rather aim at is to include in the ligature a considerable thickness of tissue. The sac having been opened, the intercolumnar fascia should be recognised, if it has not already been turned aside in the dissection, and everything below it may be taken up. My colleague, Mr. Wright, has shown me an easy way of avoiding the cord. He punctures the peritoneum with the needle point just before coming to the cord, passes across it, and punctures once more on the other side of it, thus leaving a small portion of the sac at the bottom, not included in the ligature. By operating in this manner I find that the inflammatory exudation is very much more abundant than when the peritoneal sac alone is ligatured, and that the resulting cicatrix is correspondingly dense.

Secondly, as regards the treatment of the sac after ligature of its neck. I have never been able to understand why so large an amount of trouble is sometimes expended in dissecting it out. My practice, except in a very few cases, has been to leave the sac where I find it. Of course, one wishes it to become obliterated. This, according to my experience, is invariably accomplished. A pretty acute inflammatory process is set up, and, to secure a free exit for its products, an incision is made through the lowest part of the sac and the overlying scrotum, through which a drainage tube of suitable size is passed into its interior. This is sometimes supplemented by another drain, placed in the operation wound. Sometimes the sac lies so loosely in the scrotum that it can be "stripped off" with the greatest ease, and in such a case there can be no possible objection to this being done. When, however, the case is one of congenital hernia, or when, from other causes, anything like "dissecting" is required, then the procedure is an entire mistake. Several of my colleagues pursue the same practice as myself in this respect.

Lastly, in applying the sutures to the pillars of the canal, it is useful, I think (though this is quite a minor detail), to push the needle through the subjacent portion of the sac as well. By doing so, not only have the sutures a better hold, but the whole of the parts become better incorporated into a firm cicatrix. Although accustomed to use silver wire almost exclusively for general suturing purposes, in this instance I have been in the habit of employing catgut or silk. Seeing, however, that my friend Mr. Banks speaks so strongly in favour of wire, I have in a recent case adopted it, and I think that I shall continue its use.

The great end held in view in my method of operating is the setting up of such an amount of inflammatory exudation as will secure an effective barrier to the future descent of the hernia—to make the "cure" as complete and "radical" as it is possible to make it. There is no doubt that the inclusion of so much tissue

in the ligature of the neck of the sac renders the operation more severe than when the peritoneum alone is ligatured. There is considerable interference with the vascular supply of the coverings of the cord, as well as of the scrotum, and consequently considerable inflammatory œdema is occasioned, which is slow in subsiding. Suppuration is also likely to take place, but in one case only have I found it to be troublesome. In one case the operation was fatal. The patient was a man 65 years of age, with a large, troublesome scrotal hernia. He never rallied properly from the primary shock of the operation, and succumbed 32 hours afterwards. There was no peritonitis. These disadvantages, however, are only the price one has to pay for an ultimately superior result. At the same time, I must not be understood to convey an impression that this operation, modified in the manner I have described, is really a serious one. I do not so regard it at all, for the local swelling, and the length of time the patient has to be on his back, are the most serious points for consideration.

I must add that I do not think that I have performed this operation in any of my cases sufficiently long ago to enable me to make a positive statement as to its real value as a curative measure. The utmost I can say is that I have examined several cases, some months after the operation, and in none of them have I found any tendency to recurrence. In my earlier cases, with the ligature of the sac alone, the tendency to recurrence was almost invariable. I had an opportunity of examining the parts in the case of a man who died of phthisis eight months after operation, and found them most perfect.—*Medical Chronicle*, June, 1885, p. 177.

### 63.—ON THE TREATMENT OF OMENTUM IN HERNIOTOMY, AND ITS USE IN THE RADICAL CURE.

By FREDERICK A. SOUTHAM, M.B., F.R.C.S., Assistant Surgeon to the Manchester Royal Infirmary.

In a large proportion of cases of herniotomy, both femoral and inguinal, omentum as well as intestine is found in the sac, and, after reducing the bowel, the question consequently arises as to the best mode of dealing with the former structure.

Three different plans of treatment are open; the omentum may be returned into the abdomen, it may be left in the sac, or it may be removed. Omentum should only be returned when it is recently descended, when it is present in small amount, and when it is in a perfectly healthy condition. If in large quantities, if thickened and indurated, if much congested, inflamed, or infiltrated with extravasated blood as the result of previous attempts at taxis, its reduction is attended with danger, as being calculated to excite peritonitis; under these circumstances the ordinary plan is either to leave it in the sac or to remove it. Of these two alternatives,



excision is by far the most satisfactory, inasmuch as it enables us at the same time to perform a radical cure; leaving the thickened mass, especially if inflamed, in the sac is often followed by troublesome suppuration, and the inflammation is very liable to spread upwards into the peritoneal cavity. It is now an established fact that ligature of the omental pedicle with catgut and excision of the mass beyond is not attended by any danger, though this is quite at variance with the teaching of the older surgeons; thus we find that Lawrence, referring to ligature of the omentum, writes: "What can indeed be more contrary to reason than the practice which we are now considering? . . . If strangulation of the omentum by the ring is sufficient to produce dangerous and mortal consequences, must they not be equally expected from that stricture which is caused by the ligature?"

No doubt the frequent supervention of peritonitis, which attended this mode of treatment in former days, was owing to the fact that silk ligatures were employed, the ends of which were left hanging out of the wound; consequently, in the absence of any antiseptic precautions, there was a ready track along which septic matter might make its way into the peritoneal cavity. (It is also interesting to note that Lawrence and his contemporaries regard ligature of the neck of the sac as almost equally dangerous. In all cases, the pedicle of the mass of omentum should be carefully secured before removal with strong catgut, otherwise troublesome hemorrhage may ensue: if of small size, it may be surrounded with a single ligature; if large, it is safer to transfix it in one or more places, and then to tie it in several pieces. In inguinal hernia, omentum is not of much use in effecting a radical cure. In this form, it is best to return the pedicle just within the abdomen, and then, having ligatured the neck of the sac, as high up as possible, and divided it on the distal side of the ligature, to push it up the inguinal canal, and suture the pillars of the ring beyond it, either with the strongest catgut, or with silver wire as recommended by Mr. Banks. In femoral hernia, on the other hand, the pedicle of omentum may always be utilised as a means of assisting in the closure of the crural canal. In many cases of this nature, and especially when previously irreducible, the omentum will be found to have contracted adhesions to the sac, and very frequently about its neck; under these circumstances, a simple plan and one which is attended by good results is the following. After dividing the stricture and reducing the bowel in the ordinary way, the entire sac (still containing the omentum) is separated from its connection with the surrounding tissues, and dissected up as far as its neck. This is usually an easy proceeding, much more so than in cases of inguinal hernia (especially when these are of the congenital variety) owing to the intimate adhesions between the sac and the constituents of the spermatic cord. The neck of

the sac and the pedicle of omentum are then transfixed together as high up as possible by a needle armed with a strong, double, catgut ligature, and tied in two halves. To make matters still more secure, the neck of the sac may be surrounded by another ligature. The sac and omentum are then removed on the distal side of the ligature; the external wound is closed, a drainage tube being laid across it and brought out at either extremity. If moderate pressure is then maintained over the wound by a carbolised sponge or a pad of gauze, healing will in most cases rapidly ensue, the opposed surfaces from which the sac has been stripped at once uniting with very little suppuration, and frequently with none at all.

The advantages of this method are as follows:—

1. The crural canal is left plugged with a mass of omentum, which cannot slip away, and will therefore in the future act as a barrier to the descent of the bowel.

2. By transfixing the neck of the sac and the pedicle of omentum, we insure a certain amount of inflammatory action, and consequently of exudation of lymph between these structures; this must tend to consolidate and strengthen the barrier which is formed.

3. By transfixing the pedicle of omentum and tying it in two halves, it is firmly secured at the neck of the sac, and there is, therefore, no chance of the ligature slipping, an accident which may be followed by troublesome hemorrhage from its cut surface.

With ordinary care, there is little danger of wounding the femoral vein (which, it should be borne in mind, lies just external to the neck of the sac), especially if the needle is passed from without inwards.

In illustration of this plan of treatment, I may mention (out of several) the two following cases of femoral hernia, in which it was recently employed:—

Margaret C—, æt. 50 years: old irreducible hernia of large size, reaching up to anterior superior spine of ilium; strangulated three days, stercoraceous vomiting present. Bowel almost black; omentum very congested. Removed large mass of omentum along with sac, transfixing and ligaturing pedicle and neck of sac in manner described. Wound healed on 12th day without any suppuration; highest temperature, 100·6° F.: left hospital on 25th day, wearing a truss.

Ann L—, æt. 62 years: old hernia, size of hen's egg, previously partly reducible. Symptoms of strangulation for four days; stercoraceous vomiting present. Bowel very congested; omentum slightly so, and adherent to inner surface and neck of sac. Treated as above. Wound healed on seventh day without any suppuration; highest temperature, 98·6° F.: left hospital on 17th day, wearing a truss.—*Medical Chronicle*, June 1885, p. 180.



## 64.—ON A FATAL CASE OF STRANGULATED FEMORAL HERNIA WITHOUT CONSTIPATION.

By C. J. BOND, F.R.C.S., House Surgeon, Leicester Infirmary.

[The following very interesting case affords an excellent example of the fact that strangulation of the intestine, and not the arrest of passage of the intestinal contents, is the essential condition tending to a mortal result in cases of strangulated hernia.]

E. H——, a healthy woman, aged fifty-seven, has suffered from right femoral hernia for four years, and has never worn a truss. The hernia had been reducible up to Nov. 27th of last year, when during exertion the tumour suddenly increased in size; in a couple of hours the patient felt sharp pain in the swelling, and vomiting occurred. From this date (Nov. 27th) up to her admission on Jan. 7th, 1885, she suffered more or less from vomiting, which came on at irregular intervals, and is said to have “smelt very bad” on one occasion. The bowels were moved irregularly at intervals of two or three days. Sometimes there was diarrhoea, and the last motion was on Jan. 4th, three days before admission. Up to this time she had been getting up, and went to see a medical man on this day. On her admission on Jan. 7th she was in a state of semi-collapse, but was operated on immediately. The little knuckle of gut, though red, was not very dusky, nor apparently much inflamed, and in no way gangrenous. The stricture, which was tight, was divided, and the gut returned. No omentum was seen. The patient never rallied after the operation, and died in a few hours.

*Necropsy, with remarks.*—The portion of intestine was found lying close to the opening of the crural canal; the mark left by the constricting band was very plain, and, what is especially noteworthy, did not involve the whole circumference of the intestine, but passed obliquely on one side within about half an inch of the mesentery, and on the other rather nearer this edge; thus not obliterating the whole calibre of the bowel, but leaving a narrow channel along the mesenteric border of the gut. It is this fact which, I think, throws light on the peculiarity of the symptoms; for here is a case of strangulated hernia in which the strangulation is so complete in a portion of the intestinal tube as to lead to perforation, and yet in which, owing to the obstruction having been partial only, the symptoms are spread over a period of six weeks, and the bowels are moved, though irregularly, throughout that time. Attention seems to have been diverted from the real cause of the symptoms by the fact that though the patient vomited she did not get appreciably worse, and by the absence of constipation. The standard works on surgery mention no exception to the rule of complete constipation in strangulated hernia—in fact, do not refer to cases of strangulation of portions only of the whole calibre of

the small intestine; and the condition doubtless is not common. At the same time there are specimens showing it in several of the London museums—two in that of University College, described in the catalogue by Beck and Shattock; but no account is given of the symptoms before operation. It would thus seem well to remember that it is possible to have cases of strangulation of a knuckle of intestine of such severity as to lead to perforation, there being no constipation, the symptoms resembling those of a case of chronic partial obstruction of the whole tube. At the upper part of the site of the stricture at one spot there was an opening into the intestine, through which fæcal matter had, evidently just before death and since the operation, escaped into the peritoneum, and helped to bring about the fatal result; there was no general peritonitis. In the *Lancet* for March, 1882, I published some cases from which it seemed to me very probable that in cases of injury to the intestinal wall from extreme nipping, the perforation takes place from within outwards, and not from without inwards, commencing in ulceration and destruction of the mucous coat first, and, as in this case, nearly always at the site of the upper stricture, or that limiting the upper, full, dilated portion of intestine above the strangulated part. In this case it would also appear that the tight constricting band, though involving only a portion of the whole calibre of the gut, had by pressure caused, not only ulceration of the mucous membrane at several points along its path, but at one point destruction of this and the muscular coats, leaving only the band itself, the thin peritoneum, and some plastic lymph to close the opening. As long as the knuckle of intestine remained *in situ* no escape occurred; but as soon as this band was divided, the adhesions broken down, and the intestine returned into the abdomen, fæcal matter rapidly escaped, though none was seen at the time of the operation, and the gut was for this reason returned instead of being left, with the stricture relieved, outside the abdomen, or an artificial anus being made.—*Lancet*, May 30, 1885, p. 984.

#### 65.—A NEW WASHABLE TRUSS FOR INFANTILE HERNIA.

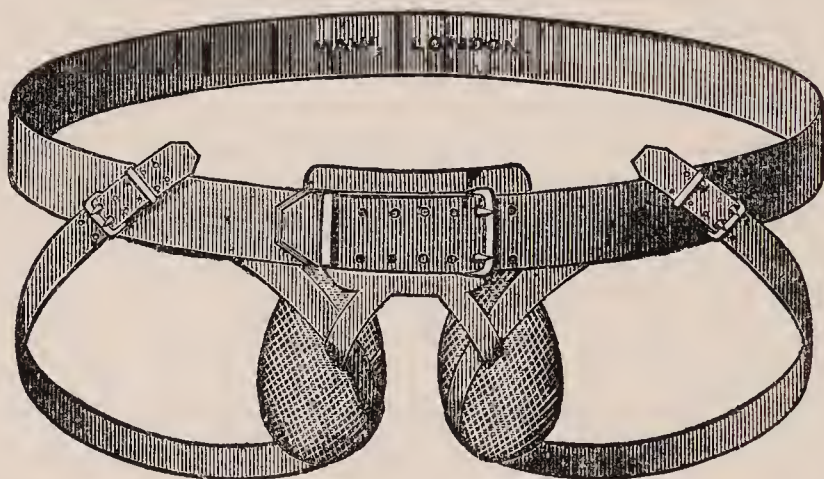
By J. WARD COUSINS, M.D., F.R.C.S., Portsmouth.

For some years past I have been on the look-out for an efficient and simple truss suitable for infants and young children, and I have tried a great variety of instruments made up of springs and pads, but unfortunately they have all proved in my hands very imperfect contrivances, troublesome to adjust, difficult to keep in position, liable to irritate the tender skin by pressure, and to get foul and unwholesome through constant use. By the help, however, of the new washable truss, all the difficulties which surround the management of these cases are entirely removed, and I can



confidently recommend it to the notice of any of my professional brethren who are concerned with the treatment of infantile hernia.

The instrument is represented in the engraving, and consists of an elastic air-cushion, which is shaped to support evenly and comfortably the lower part of the abdominal surface, and also the inguinal region, on either side, down to the fold of the thigh. In form the cushion is caudate, with a deep notch at the lower border into which the external organs are received. On the centre of the upper border the inflating-tube is fixed. The pad is protected by a linen cover, and is securely fixed by a pelvic belt of webbing, fastened in the middle line by two surgical safety pins. The belt is held in position on each side by a narrow band, which passes through a loop attached to the lower end of the pad, and then



encircles the thigh. By this light and simple contrivance, which requires no skill in its adjustment, the hernia is very efficiently kept up, and the relaxed walls of the abdomen are equally supported at every part, without discomfort or undue pressure. It, moreover, does not require constant attention to keep it from slipping out of position. It can be easily put on and taken off by the nurse; at the same time the belt can be removed, and a clean one substituted for it, whenever it becomes soiled. A daily change of belt will be generally found sufficient with ordinary care. The new truss is made for me by Messrs. Maw, Son, and Thompson, and each cushion is supplied with several washable belts and pad covers.

The treatment of infantile hernia is thus reduced to a matter of great ease and simplicity, and, in a large proportion of cases, the persistent and careful application of the support will prove sufficient to produce a radical cure in a few months. The nurse must be directed to prevent as much as possible the reappearance of the protrusion. When washing the child she should always carefully support the whole inguinal region with her left hand. The skin must be dabbed dry with a soft towel, and dusted occasionally with a mixture of finely-powdered starch and oxide of zinc. The

cushion should then be slipped under the fingers, and the belt and bands fastened on with a pressure just sufficient to prevent the descent of the rupture, and to diffuse an even resistance over the abdominal surface. The little patient is always composed and comfortable as soon as the truss is efficiently applied. Of course, in every case, the general condition of the child must be considered, and any existing disorder of the secretions corrected by remedies and appropriate feeding. Every source of irritation and straining must as far as possible be removed. The condition of the prepuce always demands special attention, and in a large proportion of my cases circumcision is a preliminary proceeding. There are, however, a few cases of severe congenital inguinal hernia which cannot be satisfactorily treated without surgical operation. The protrusions are large and tense, the abdominal parietes relaxed, and the inguinal orifices distended; at the same time these unfavourable conditions are aggravated by the constant screaming and straining of the child, so that it is impossible to succeed with any sort of mechanical support. After the failure of ordinary means, there can be no doubt as to the legitimacy of surgical interference, and fortunately this can be undertaken with very little risk by the aid of strict antiseptic precautions. There are now many recognised operations for "radical cure;" but in every case, before selecting any form of procedure, it is essential to take into consideration the size of the hernia and the general condition of the system. I have performed Spanton's operation six times successfully, and it appears to me to be admirably adapted for the cure of inguinal hernia of moderate size occurring in otherwise healthy children. But in large scrotal protrusions, associated with depressed vitality and impaired nutrition, I prefer to ligature the neck of sac, and in this way several cases have been very successfully treated.—*Lancet*, Aug. 29, 1885, p. 384.

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#### 66.—ON PYLORECTOMY.

By RANDOLPH WINSLOW, M.D., Surgeon to the University and Bay View Hospitals, Baltimore, U.S.A.

No operative treatment was ventured upon for the relief of pyloric disease until April 9, 1879, when Péan, of Paris, at the urgent request of the patient, who threatened to commit suicide unless relieved of his sufferings, performed laparotomy and removed a cancerous tumor of the pylorus, and by so doing ushered in a new era in abdominal surgery. His patient, a man, died on the fifth day of inanition. This operation attracted but little favourable notice, and was regarded more in the light of a surgical audacity than as an advance in the domain of legitimate surgery. His example was followed by Rydygier, of Kulm, on Nov. 16, 1880, and his patient succumbed to collapse in twelve



hours. On the 29th of January, 1881, Prof. Billroth, of Vienna, performed the third pylorotomy upon Frau Maria Theresia Heller, who was dying from starvation, the result of pyloric stenosis. The patient made a speedy recovery from the operation, gained flesh rapidly, and returned to her accustomed mode of life. She died from recurrence of the disease four months subsequently. The news of this operation spread with wonderful rapidity, and its successful issue was hailed as a great surgical triumph. The surgeons of Vienna especially greeted the great event with the liveliest expressions of joy and admiration. They called it an epoch-making operation.

Up to the present time pylorotomy has been performed over sixty times, in various quarters of the globe, and although this number is insufficient for determining the true value of the method, the indications for and against its performance, its technique, and its final results, still it is believed that valuable data may be gleaned from its statistics, meagre though they be.

If we tabulate the operation by years, the following results are obtained:—In 1879, Péan performed his solitary successful operation. In 1880, one case by Rydygier, also fatal. 1881, 20 cases were operated on by 16 surgeons, with 5 recoveries and 15 deaths; or, 25 per cent. successful, 75 per cent. fatal. In 1882 there were 16 operations by 15 surgeons, with 2 recoveries and 13 deaths, one case result unknown to me; or,  $13\frac{1}{3}$  per cent. successful,  $83\frac{2}{3}$  per cent. fatal. In 1883, 13 operations were performed by 12 surgeons; 6 recoveries and 7 deaths; successful, 46.15 per cent.; fatal, 53.85 per cent. In 1884, 9 operations are all that I can find notice of, performed by 5 surgeons, with 6 deaths and 3 recoveries; successful,  $33\frac{1}{3}$  per cent.; fatal,  $66\frac{2}{3}$  per cent. In January, 1885, one fatal case. Total operations, 61; recoveries, 16, or  $26\frac{2}{3}$  per cent.; deaths, 44, or  $73\frac{1}{3}$  per cent.; result in one case unknown to me. Most of these operations have been performed in Austria and Germany, but isolated cases have been operated on in various portions of the globe. Pylorotomy in the hands of the Austrian surgeons has been followed by  $44\frac{1}{2}$  per cent. of successes, whilst in Germany the percentage of recoveries is  $33\frac{1}{3}$  per cent. Switzerland has the same average, but with only one-third of same number of operations; whilst Holland has the highest average, 50 per cent., but with only 2 cases. The United States of America, Great Britain and Russia, France, Brazil, and Norway, present a unanimous average of 100 per cent. of deaths. One is forced to recognize the fact that it is in the hands of Billroth and his special pupils, Czerny, Mikulicz, and Woelfler, that the best results have been obtained. This is a coincidence which is probably more than accidental, and bespeaks the skill of the great Vienna surgeon, both as an operator and as the teacher of skilful operators.

The indications for which excision of the pylorus has been per-

formed are:—1st. Carcinoma, which, either on account of unendurable pain and distress, or by the production of stenosis and vomiting, threatened death from starvation. 2nd. Ulcer of the stomach, which, in its cicatrization, produced a sufficient coarctation to close the pylorus. 3rd. Stenosis, from swallowing a caustic liquid.

The following is a brief outline of the operative acts:—Several days previous to, and again shortly before the operation, the stomach ought to be thoroughly evacuated and its cavity well irrigated with some antiseptic solution; salicylic acid, 1-1000, being that which is used by many surgeons. This can be effected readily by an ordinary stomach tube or piece of large drainage tube, into the end of which a funnel is inserted; the patient being in a sitting posture.

Billroth prefers a transverse or an oblique incision over the most prominent portion of the tumour, which in his opinion affords better access to the seat of disease; but Czerny, who is the next most experienced and skilled operator, and Rydygier, as well as several other surgeons, made their incisions in the middle line, and found it to answer every purpose. There are, perhaps, but few cases in which an incision in the linea alba will not give sufficient space, and when such is the case, it would not complicate the operation much to make an additional transverse cut. It is certainly more difficult to maintain accurate apposition of the incision when the muscles have been divided transversely; and in one case peritonitis began at the transverse incision. Having opened the abdomen the first duty of the surgeon is to see whether the tumor has contracted such adhesions as will prevent a total extirpation of the disease, or which will render the operation long and difficult. Equally important is it to ascertain whether the malignant disease is diffused or confined to the pylorus and adjacent stomach wall. If the adhesions are great, or the disease disseminated, the operation must be discontinued and the abdomen closed; or if the stenosis is marked a gastro-enterostomy must be performed. The isolation of the pyloric tumor is effected by ligaturing the greater and lesser omenta in small portions with double ligatures, and cutting between the threads. The omenta must only be detached to a point corresponding to the line of the proposed excision, otherwise gangrene of the stomach or duodenum might occur.

The stomach is now secured by the hands of an assistant or clamped with forceps or rods covered with rubber, and it is divided from the smaller curvature obliquely downward from the left to the right. The difference between the lumina of the stomach and duodenum is to be overcome by bringing together the upper portion of the incision in the stomach, leaving an opening at the greater curvature of a size to correspond with the duodenum. In effecting



this occlusion of the upper part of the incision, the mucous surfaces are first united with internal sutures, and then the serous surfaces are inverted by the Lembert suture, about one-third of an inch of the peritoneum being included in each suture, which is so passed as not to penetrate the mucous membrane, and finally a row of interrupted or continuous sutures, the whole forming the "tier" suture of Czerny. After the division and occlusion of the stomach, the duodenum is divided and the diseased portion removed. Hemorrhage should be prevented by ligating the vessels as they are cut, hence it is recommended to divide the parts in successive cuts, stopping to seize the vessels. Kocher in addition recommends and practised successfully the crushing of a limited zone with forceps.

As the result of experience all operators now prefer to insert the duodenum upon the greater curvature of the stomach. This is effected by a double or treble row of sutures; beginning from within, the posterior walls of the viscera are united by sutures which are entered and brought out between the mucous and muscular coats and in effect make a Lembert suture, only they are tied from within; the mucous surfaces are then sutured separately all around. The union of the anterior portion is effected by ordinary Lembert sutures, with an additional tier of interrupted or continuous stitches. After carefully inspecting all the sutures in order to be sure of their security, the parts are cleansed and disinfected and replaced.

The closure of abdominal incision is then effected in the usual manner, and an antiseptic dressing completes the operation.—*American Journal of Medical Sciences, April, 1885, p. 348.*

#### 67.—ON EXCISION OF THE RECTUM FOR AN EPITHELIO- MATOUS TUMOUR.

By GEORGE ELDER, late Senior Surgeon to the Hospital for  
Women and Children, Nottingham.

Removal of all or part of the lumen of the lowermost bowel is sufficiently rare to merit a place in contemporary medical literature. My patient was a widow, æt. 44 years, and with a good record of family and personal health. For nearly a year before her admission into hospital, on Nov. 29th, 1884, she had been losing flesh and condition, but at first the local symptoms were so slight that they were attributed to a passing attack of piles. As time wore on, the bleeding, which had only been slight and occasional, became more profuse, and occurred with every movement of the bowels. There were also distressing fits of rectal tenesmus and colicky pain, and the motions, which for months had not been natural in size or form, finally were small, unformed, and forced by the habitual use of purgatives. There was a constant oozing of bloody slime, but except at defecation, when pain and straining

were severe, there was but little uneasiness. On digital examination, about three inches up the bowel, and on its anterior surface, a friable, mushroom-shaped growth, with a broad attachment, could easily be felt. The free mucous membrane above it was beyond the reach of the finger. There seemed to be no implication of the contiguous bowel.

On December 9th, with patient under the influence of ether, a semicircular incision was made round the upper and lateral margins of the anus, and the necessary dissection completed, partly by the knife, but mainly by scissors. Only two arteries required ligation. To expedite matters, after the bowel had been partially freed, it was cut away, so that I could the more easily apply traction, by means of vulsellum forceps, to the remaining portion. When sufficient had been separated, an *écraseur* wire was applied well beyond the growth, and this completed the operation. In all rather more than three inches of the anterior two-thirds of bowel were removed. There was little hemorrhage, and, after thorough irrigation with a 1 in 2000 mercuric perchloride solution, the wound was tamponed with absorbent lint soaked in a saturated solution of iodoform in glycerine.

The after progress of the case, barring an acute attack of ether bronchitis, which at one time threatened to extinguish life, was satisfactory. Three days after the operation the patient had four loose and painless motions, and the wound, which hitherto had been dressed with the glycerole of iodoform, was now irrigated every few hours with warm mercuric perchloride solution (1 in 2000), and afterwards covered with lint soaked in carbolised oil (1 in 20). There was never any danger from sepsis, and it was noted on January 10th that the wound had fairly healed, and a good-sized formed motion was passed, causing her pain if she strained. Seven days subsequently she left the hospital, looking and feeling better than on admission. Microscopic examination of the growth by my friend Dr. Handford showed it to be a cylindrical-celled epithelioma.

On February 6th the patient appeared before the Nottingham Medico-Chirurgical Society, and in answer to questions said she had perfect continence of *fæces*, and passed daily, and without the use of aperients, a formed motion.

According to Mr. Harrison Cripps, rectal cancer, whether it subsequently assumes the character of epithelioma or scirrhus, almost always begins as an adenoid deposit in the submucous tissue, and it is, of course, in this initial shape that excision offers the best prospect; but even when ulceration has taken place, if the disease be within the reach of the finger, and capable of entire removal, the operation is indicated. The mildly-malignant nature of cancer in this situation, and its comparatively slow rate of growth, give to excision a present value in ridding the patient of



most painful and exhausting symptoms, and also make it the means, if not of a cure, still of a prolongation of life more or less considerable. I believe there are cases on record where removal of the affected bowel has cured the patient, and there is no reason why similar cases should not be chronicled if the patients came sufficiently early under the notice of the surgeon.—*Medical Chronicle*, June 1885, p. 183.

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#### 68.—SUBCUTANEOUS DIVISION OF THE SPHINCTER ANI.

By T. PICKERING PICK, F.R.C.S., Surgeon to St. George's Hospital.

During the last twenty years such vast changes and improvements have been made in our treatment of wounds, by the introduction of antiseptic principles, that it behoves the surgeon to consider how he can best apply these principles in every case of wound with which he has to deal. There are certain classes of cases, however, in which this plan of treatment, as ordinarily adopted, cannot be carried out. I mean that in some wounds it is impossible to exclude the air loaded with dust—germs, if you will—by any antiseptic precautions, in the way of gauze or other dressing saturated with antiseptic material. To such a class wounds of the rectum belong: the constant calls of nature and the impossibility of preventing the passage of fæces over the injured surface render any attempt to employ the carbolic, or other dressings of this kind, futile.

There is, however, a plan by which these wounds may in many cases be maintained aseptic, and that is by the oldest of all antiseptic measures, by subcutaneous surgery, by operating beneath the skin, through a small puncture, which is easily closed, so that no morbid material can be brought into contact with the wound and thus no untoward condition result. My attention was first drawn to this subject by a case which was admitted into St. George's Hospital under the care of my colleague, Dr. Whipham. The man was admitted with cirrhosis of the liver, but in addition to this he suffered from what Dr. Dolbeau, of Paris, has termed "*spasmodic neuralgia of the anus*." That is to say, he suffered from the most intense pain and agony, accompanied by spasmodic contraction of the sphincter ani after each action of the bowels, which lasted several hours. The case was supposed to be one of fissure by my house surgeon, who saw him a day or two prior to my examining him, and he states that he thought he detected a small ulcer just within the anal aperture, but owing to the violent contraction of the muscle, and the intense pain, he could only make an imperfect exploration. I had him placed under the influence of ether, and made a careful examination. It was noticed after the patient was completely narcotised, and when there was perfect relaxation of all the voluntary muscles, that the sphincter ani con-

tinued spasmodically in action ; alternately contracting and dilating under any irritation, such as the attempt to introduce the finger into the rectum. Examined with the anal speculum, no structural lesion whatever could be detected, and a perfectly healthy mucous membrane was revealed. It seemed to me that the only prospect of giving relief was to paralyse the muscle, by dividing it, and in order to carry out antiseptic principles I determined to do this subcutaneously. I introduced my left forefinger into the rectum, and then inserted a tenotome through the skin about a quarter of an inch from the anal orifice, and, guided by my forefinger, carried it up beneath the mucous membrane between this structure and the muscle, until the point was well above the upper border of the latter. Then, turning the cutting edge outwards, I divided the substance of the muscle until I felt that all resistance from it was entirely gone. One or two drops of blood followed the withdrawal of the knife. The patient was ordered a dose of opium to keep his bowels from acting for twenty-four or forty-eight hours. After this, an enema produced a copious action without pain, and from this time he was completely relieved of his distressing symptoms, and at the same time enjoyed complete control over his bowels, a point about which, I confess, I was to a certain degree anxious.

In thinking over this case, it occurred to me that we had in this simple operation a decided improvement on the one usually performed for that very distressing complaint, *fissure of the anus*. The usual operation consists in passing a blunt pointed knife into the anus, and cutting outwards through the base of the ulcer, so as to divide the fibres of the sphincter muscle, and this produces a very considerable wound, which always takes from ten days to a fortnight to heal, and sometimes a very much longer period, during which the passage of the motions over the sore causes the patient a certain amount of pain and annoyance, and exposes him to the risk of septic absorption.

The object of this operation is to paralyse the action of the muscle, which by its movement prevents the ulcer from healing. And it will be often found by those who are frequently called upon to perform it, that if the muscle is imperfectly or insufficiently divided, entire quiet is not obtained, and the undivided fibres, though paralysed for a time, soon recover themselves, and the old trouble reappears. It seemed to me, therefore, that by subcutaneous division of the muscle we attained three ends: (1) a complete division of the whole muscle, and therefore a more certain result; (2) a small puncture instead of a large wound, and therefore more rapid healing; (3) a subcutaneous wound, and less chance of septic absorption.

There is also another class of cases in which I think the operation of subcutaneous division of the sphincter ani may advan-



tageously be resorted to, and that is in the operation for *internal piles*, whether that operation consists in ligaturing, searing, or crushing them. It has been for some time my practice, and I have no doubt it is the practice of every one who operates in these cases, to commence proceedings by forcibly stretching and paralyzing the sphincter. There can be no doubt of the great advantages to be derived from this proceeding, for not only does it fully expose the lower part of the rectum, so that it can be thoroughly explored, but it also does away, to a great extent, with the spasmodic pain, which is otherwise such a frequent sequel to this operation. Stretching is performed by introducing the two thumbs into the rectum, and thoroughly extending and, no doubt, rupturing some of the fibres of the sphincter and by separating them in the antero-posterior and lateral directions, using an amount of force sufficient thoroughly to overcome the spasm. For this somewhat unsurgical proceeding I now substitute subcutaneous division, an operation which thoroughly exposes the lower three inches of the rectum, without such laceration and bruising of tissues as forcible stretching must produce, and entirely does away with the pain from spasmodic contraction which, in spite of the stretching, often, in my hands at least, followed the operation.—*Medical Times and Gazette*, June 6, 1885, p. 739.

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#### ORGANS OF URINE AND GENERATION.

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#### 69.—ON THE DIAGNOSIS AND TREATMENT OF TUMOURS OF THE BLADDER.

By REGINALD HARRISON, F.R.C.S., Surgeon to the Liverpool Royal Infirmary.

It will be convenient to arrange tumours of the bladder into two classes or stages: (1) those which, during their entire existence, or for a portion of it, occasion either slight or no distinct indications of their presence; and (2) those which declare themselves by symptoms either seriously disturbing the function of micturition, or which, by their constancy or degree, threaten the life of the patient.

From the manner in which I have thus attempted, in general terms, to make use of a classification, it will be at once understood that, individually, I should be guided as to treatment, not by the fact alone that a patient has a growth in his bladder, but by the symptoms it produces.

The mere subjective evidence that a person has a tumour of this kind would not, I submit, warrant the adoption of any operative measures to effect its removal, even if, in addition, it were possible to demonstrate its existence by other means than digital exploration. Some tumours of the bladder which have been found in the

post mortem room appear to have had no history connected with them ; and instances are known in patients of the total disappearance, after varying intervals, of symptoms which were unmistakably those of villous growths or papilloma. Of the latter, I believe that I am acquainted with more than one case. These are important facts, as they seem to indicate that what nature can accomplish, art may hope to imitate. How these growths thus disappear, whether it is by an accidental self-strangulation, or by an inflammatory act, it is impossible to say ; but that they do so occasionally, without recurrence, I have not the least doubt. Unfortunately, however, by far the larger proportion of them sooner or later pass out of the condition where operative interference is not to be recommended, and enter upon what I have taken as the second stage of their existence. Whether the transition is slow or rapid, gradual or sudden, much depends on their kind ; but whether innocent or malignant, primary or secondary, the great majority of them, sooner or later, make it apparent that life will eventually be destroyed, either by persistent hemorrhage, or by the degree to which micturition is interfered with.

The question of operative interference will now be entertained ; but, before anything further can be said as to the hope of success which is likely to follow this, it is necessary that a more accurate knowledge of the connections of the growth should be obtained. This brings me to speak of digital exploration of the bladder.

If you will look at the two drawings before you, you will see examples of two very opposite conditions ; one where everything may be hoped for from operation, where modern surgery has proved complete recovery to be possible ; and the other where nothing is to be expected, except the relief of those symptoms of urgency which have rendered an opening into the bladder necessary.

The first drawing represents a villous growth of three and a half years' duration, with a narrow pedicle ; the second is an epithelioma, extensively connected with the posterior wall of the bladder, from a specimen of my own in the Liverpool Museum. Illustrations like the latter tend to show that though the diagnosis may be correct, the prognosis, so far as operative treatment is concerned, may fall very short of our desire, as the propriety of attempting to remove such growths can never be decided until the finger has been placed in contact with them.

Digital exploration of the bladder, relative to the treatment of tumours, seems to me to be called for when it can fulfil at least three objects : (1) the relief of symptoms which are otherwise irremediable ; (2) verifying the diagnosis of tumour ; (3) determining whether the removal of the growth can be proceeded with. The circumstances which require a surgeon to open the bladder, for the purpose of finding out what is inside it must be very exceptional ; but when, by this proceeding, the three important



objects I have mentioned are to be obtained with little risk, then its importance cannot well be overrated. There are recorded cases which seem to suggest that, if the exploratory examination has been limited to providing a means for draining the bladder, and for examining the growth, it would have been better.

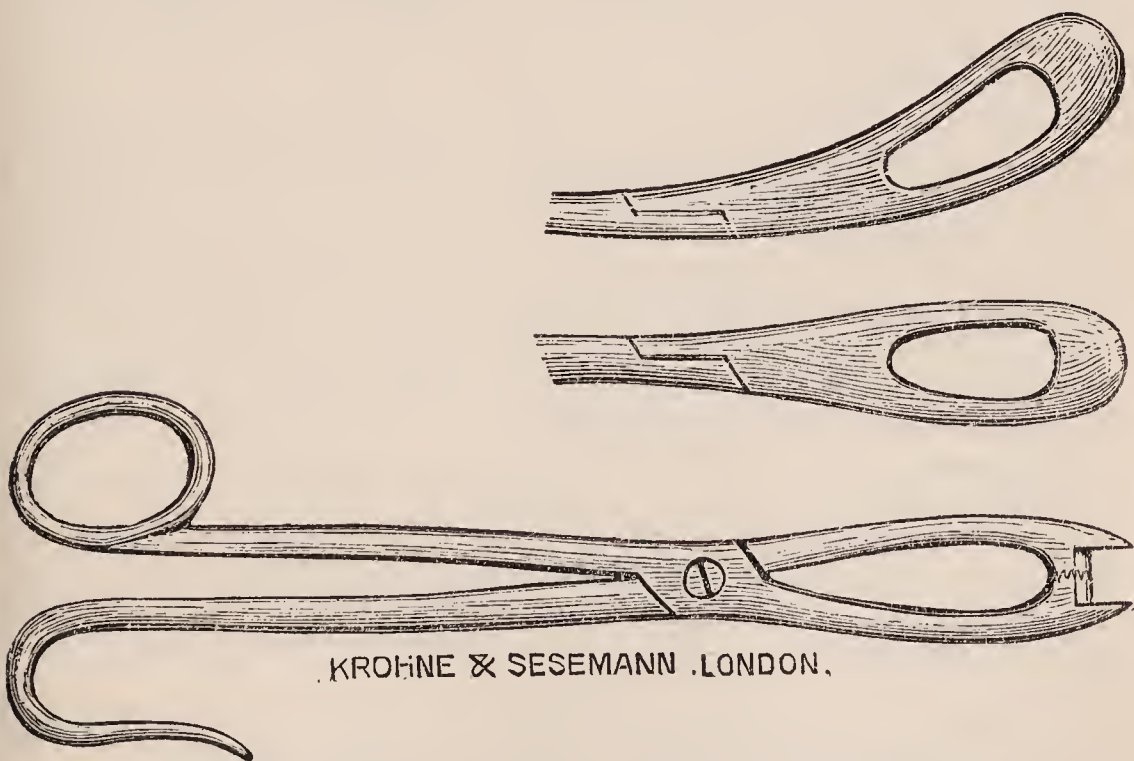
In the case of an epithelioma of the bladder, to attempt its extirpation is obviously out of the question; to explore it with the finger, and to feel so far satisfied, and, at the same time, to give the patient an opportunity of emptying his bladder completely by means of a short and open road so long as he lives, is legitimate; nay, further, experience has already sufficiently shown that there is no better way of controlling the considerable bleeding which nearly always attends these cases, than by providing the means of permanently maintaining the bladder in a condition of more or less contraction.

And now a few words in reference to the operation for exploring the bladder with the finger. If there be two ways to a place, of about the same length, but with somewhat different surroundings, you may depend upon it you will have two sets of travellers, with the same aims, but with very opposite notions as to the respective merits of the two routes; so with the bladder; though we are agreed as to the necessity of exploring it, we are not so unanimous about the route. In this country as well as in America, median perineal urethrotomy seems to be preferred; whilst in France, the claims of the suprapubic operation have been forcibly urged by Professor Guyon, Pousson, and others. Sir Henry Thompson has advocated the former method, not only as being the safest and most convenient for exploration, but, as he has shown by examples, for extirpating these growths. It seems to me that this form of procedure is to be preferred on several grounds.

In the first place, it provides a direct access to the more usual position of these growths; by a continuance of this incision forwards into the membranous urethra, and backwards to the extreme limit of the prostate, it affords more room for manipulation than at first sight appears; but, what is of more importance, it is, I believe, the best position for the drainage to follow, which is a most important item in the management of these cases. If a perineal exploration show the position or character of the tumour to be such as would be benefited by an access from the front, should it be determined to remove it, there is nothing to prevent the addition of the suprapubic incision, as Billroth demonstrated. A suprapubic incision is none the worse for having a more dependent opening, as Frère Come practised 100 years ago in connection with his success as an operator for stone. But, as I have already intimated, the great importance of the after-treatment, in relation to thorough drainage, renders to my mind the perineal procedure almost a necessity.

In connection with this point, it must not be forgotten what are the conditions under which these operations are often undertaken. In addition to the tumour which it is purposed to remove, there are usually present, either in the bladder itself, or in the organs associated with it, pathological changes which add considerably to the danger arising from the retention of anything which ought to escape. The viscus is occasionally sacculated, the ureters are patent and frequently largely distended, whilst the kidneys are rarely sound where the obstruction caused by the growths has been of long continuance. Hence we have much to fear from any extension of a suppurative process after the operation, as I have seen in two instances which have recently come under notice. One of the best safeguards against a contingency such as this is thorough drainage, and this, I think, can best be secured through an opening in the perineum.

The feasibility of attempting to remove the tumour having been determined by digital exploration, the precise means of doing so has now to be considered.



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When, after the bladder has been opened and explored, it seems practicable to remove the tumour, this should be effected as completely as possible; to take away a portion of it is to leave the remainder to inflame, suppurate, and possibly to become gangrenous, thus providing a fruitful cause for pyelitis, through the largely dilated ureters. Not being entirely satisfied with the forceps that hitherto have been used for the purpose of seizing and extracting these growths, I have had others made for me by Messrs.



Krohne and Sesemann, which, so far as I have been able to judge of them in practice, are well adapted for this object.

It will be seen that they consist of an ordinary pair of bladder-forceps with a free margin; by this contrivance, it is almost impossible to do any damage to the wall of the bladder itself. The removal of the growth is effected partly by twisting slowly with the hand, and partly by the crushing action of the jaws of the instrument. In the exploration of the pedicle, both before and after removal of the growth, I have found one of Marion Sims's enucleator-hooks exceedingly useful. If, however, the connections of the tumour be extensive, and there be a doubt as to whether all can be removed without doing serious damage to the bladder itself, I feel sure that we had better content ourselves with the opening, which may under all circumstances be safely made, and with the drainage that this opening with a suitable apparatus will provide. The lesser proceeding has in many instances proved the means of arresting hemorrhage, and of adding materially to the comfort, as well as to the life, of the patient, even where it has been found impossible either to remove the tumour, or with safety to reduce its size.

What applies to the male is equally applicable to the female; though with the latter, by reason of the anatomical differences in the parts, both exploration and removal can be more readily effected. My friend, Dr. Alexander, of Liverpool, was, I believe, one of the first in this country to demonstrate the successful removal of growths from the bladder under these circumstances.

Of excision of portions of the male bladder, I have had no experience; so far as I am aware, it has been limited to some experiments on the lower animals, in furtherance of the subject which we have now under discussion.

In conclusion, it cannot be denied that operative surgery has already proved itself to be of considerable service in the treatment of a very distressing class of disorders, in which little is to be expected from medicinal agencies.—*British Medical Journal*, Aug. 15, 1885, p. 285.

## 70.—ON NON-MALIGNANT TUMOURS OF THE SPERMATIC CORD, AND THEIR DIAGNOSIS FROM HERNIA.

By EBEN. WATSON, M.A., M.D., Senior Surgeon to the Glasgow Royal Infirmary.

It may be well to recall the fact that the diagnosis of tumours of the cord, both as to their exact nature and as to their differentiation from hernia, has been found by the best and most experienced surgeons so difficult as sometimes to have been declared by them impossible without cutting down upon the tumour, which is often by no means desirable from the patient's point of view. It

have, therefore, thought that if practical surgeons would more frequently put on record a minute and accurate account of such cases of this kind as were presented to them, the sum total of their observations would lead to a better understanding of what is at present rather a surgical puzzle. I know, and feel very much, in commencing this paper, that the very doubtfulness of many of these cases, and the imperfect or unreliable histories which operating surgeons too often obtain of their early progress, combine to make it very difficult to write about them as one would wish to do; yet that difficulty is the very reason why such an attempt ought to be made, and the very foundation of the appeal which I should like to make to all clinical surgeons to institute more careful observations in these cases, and to record the results more frequently than hitherto. The present paper is intended as a contribution in this direction towards the elucidation of what I venture to call one of the most difficult chapters in surgery.

For practical purposes the simple or non-malignant tumours of the spermatic cord may be divided into the fluid and the solid, the former being, on the whole, the more frequent of the two. The *fluid tumours* consist of oedema of the cord and the so-called hydroceles of that organ. It must be remembered that the areolar tissue, which supports the elements of the cord, is continuous with a very considerable amount of the same tissue in the pelvis—viz., that which connects the transversalis fascia with the peritoneum; so that when oedema occurs in the cord, it may pass up or be pressed up within the inguinal canal and into the same structure within the pelvis. Thus it may be made altogether to disappear from the swelling in the cord, and lead to the idea that the case is one of hernia, unless the special features of the pathological condition are attended to. These will best be shown in an example.

On May 3rd, 1884, a patient, aged seventeen, was admitted to one of my wards in the Royal Infirmary. He stated that he had had what he believed to be a rupture for some six years. It had at first appeared suddenly as a swelling in the right groin, and when he consulted his doctor he confirmed his opinion of its nature. The swelling was soft, and extended a little way into the scrotum. It was readily reducible on pressure, but on lying down it did not disappear till pressed on by the hand. By the advice of his doctor, he wore for eighteen months a truss, which kept it up very well; but the truss got broken, and he did not buy another, so that the swelling remained down in the groin and scrotum. He does not seem to have attempted to reduce it after he gave up wearing the truss. One morning, however, about a fortnight before admission into the Infirmary, he awoke with a feeling of constriction at the upper part of the abdomen, and pain in the right groin, especially on coughing. He then noticed that the swelling was much larger than usual, harder, and that it extended to the



lowest part of the scrotum. He then tried to reduce the supposed hernia, but failed; and he therefore applied for advice at the dispensary of Anderson's College, where he was advised to go to the Infirmary. On admission, there was found the swelling as above described, involving the right testicle, and extending up into the inguinal canal. It was tense and elastic, with a softer part in front, and rather to the inner side of the swelling. The skin over the tumour at the lowest part was red, and there was no distinct impulse given to it on coughing. There was no sickness, and the bowels were easily opened by castor oil. Fomentations were applied, and in a day or two fluctuation could be detected at the lower part of the tumour, a little above and in front of the testicle. An incision was at once made into this part, and a considerable quantity of pus evacuated. The director was then passed up into the inguinal canal, and another opening made in the upper part of the abscess. A small drainage-tube was pulled through the openings, and the usual antiseptic dressings were applied. Some purulent discharge continued for a few days, but it soon diminished so much as to allow the tube to be withdrawn, and the boy left the hospital quite cured in about three weeks from his admission.

I have no doubt that this was a case of slow oedema of the areolar tissue of the cord, which ultimately became acute and ended in suppuration. For the early part of the history we have only the patient's statement to rely upon, but it may, I think, be received as accurate so far as it goes. The swelling appeared first in the groin, occurring without known cause, and slowly progressing downwards into the scrotum. It could be reduced, or at all events diminished, by pressure with the hand, but always reappeared when the pressure was taken off. We are left in doubt as to the completeness or incompleteness of this reduction, and also as to the effect on the tumour of forcing a cough at this time. Afterwards, when I saw him, there was no such impulse on coughing as there would be in a case of hernia, and there was no diminution of the swelling in any posture or by gentle pressure. I regret that it is not stated in my notes what interval of time elapsed between his giving up the use of the truss and the occurrence of the acute inflammation, but one can easily understand that the pressure of a truss in this case might cause irritation and bring on such an attack. It therefore seems to me a good illustration of the evil which may follow from the too often routine practice of ordering a truss for every swelling, even if only partially reducible, which may occur in the position of an inguinal hernia.

Hydrocele of the cord may originate in the same way—viz., by oedema, not resulting in suppuration, but in the expansion of one or more of the areolar spaces containing fluid. It perhaps, however, more frequently originates in some small extravasation of

blood, which after partial coagulation changes into a serous cyst. In either case, the diagnosis is comparatively easy if the tumour can be isolated and the cord felt above and below it; but this is not always possible, as the hydrocele may be partly included in the inguinal canal. Nay, it is possible that in some rare cases the fluid may pass up into the abdomen of the patient, and entirely disappear in the recumbent position. This occurrence has been explained by some writers as due to the non-obliteration of the "processus funicularis" of the peritoneum, but I think it may also be accounted for by the occurrence of two areolar cavities containing fluid as the result of œdema, one cavity being in the pelvis and the other in the cord. But this is mere speculation on my part, for I have not seen any such case, even in the infant, though I have treated a goodly number of them for hydrocele. In no case have I been able to press back the fluid above the internal inguinal opening.

In the cases of hydrocele of the cord which I have examined, there was little or no diminution of the tumour on the patient's lying down, and the impulse on coughing has appeared to me slight compared with that felt in a case of hernia. For example, about a year and a half ago, an American gentleman consulted me for a tumour of the cord which had existed for several months. He had a hernia on the right side, for which he wore a truss, and on the left side a long oval or pear-shaped tumour, the narrow part of which was included in the inguinal canal and the larger part extended downwards towards the scrotum. The cord could be felt below but not above it. The impulse on coughing was slight, and it did not disappear, though it diminished and softened in the recumbent position. It was translucent and free from pain. His general health was quite good, but the swelling had been slowly increasing for several weeks. The nature of the tumour had been rightly diagnosed some time previously by a surgeon in London, who had drawn off the fluid, and therefore it was the more readily punctured by me with an aspirating needle, when some ounces of clear serous fluid were withdrawn. The cord was then felt clearly, and there was no evidence of hernial protrusion.

But sometimes the matter is not quite so easily cleared up—as, for instance, in the case of a man who was brought to the Royal Infirmary from the country with all the symptoms of strangulated inguinal hernia. He had worn a truss for years when these symptoms arose, and on admission I found a much larger tumour than in the previous case, involving great part of the cord, but still not extending into the scrotum. There was at that time no impulse on coughing, and the tumour was pear-shaped, the neck of it being in the inguinal canal. It was quite smooth, and too tense to be distinctly fluctuant, yet it gave to the fingers the feeling of fluid more than of solid contents, but it was not translucent.



Nevertheless, I believed it was not a hernia, but a hydrocele of the cord, and I said so to the students and others around me at the time. I also gave it, however, as my opinion that in all the circumstances of the case, the best practice was to cut down on it and incise it, which I thereupon did. There was no hernia, but a considerable quantity of reddish serum. The wound healed readily, and the man left the hospital radically cured of the hydrocele and relieved from the fear of hernia, of which he had no trace. Of course the constipation and sickness had easily yielded to proper treatment of a very simple kind.

I have little doubt that this last case was an example of the origin of hydrocele of the cord in a blood-cyst from the patient being a working man and in the prime of life, and also from the serum being still coloured with hæmatin when evacuated. The other case, being that of a gentleman in easy circumstances and of pretty advanced age, was, I think, an example of the origin of this affection in œdema of the cord, or possibly in a partially unobliterated funis. Of course, as I told him, if the fluid was found to reaccumulate rapidly, and to be a trouble to him, he might require to have it injected with tincture of iodine and radically cured; but this could not be thought of while he was merely travelling, as he then was, in this country.

I now come to the much more difficult subject of the *solid tumours* of this organ. My difficulty here arises, not so much from the want of cases in point as from the want of cases with definite and demonstrable results. The indubitable facts of ordinary anatomy, however, help us in our understanding of these cases; for it reveals to us that mixed with the common areolar tissue of the pelvis and of the cord are numerous small masses of fat. These are more abundant within the pelvis, but are also sometimes found in the cord itself. Now this is true for subjects of all ages and free from morbid affection of these parts; but it is well known that at and about the middle period of life fat naturally increases in the body, and especially in the abdomen. Nothing, then, is more likely than that these nodules of fat should at that time increase so as to deserve the name of tumours. Hence we are well prepared to receive the statement of pathologists that non-malignant tumours of the cord are either fatty or fibrous (areolar), or a mixture of both, and my experience, so far as it goes, confirms this statement; but I have not more than one actual dissection to contribute to those already on record, for most of my cases are still alive, and therefore perhaps still doubtful. A good example is the following:—

A middle-aged man from the country called at Mr. Hilliard's shop to get a truss for what he thought was an inguinal hernia; but Mr. Hilliard, on examining it, differed from him, and at least thought it was so unusual in its characters as to induce him to

advise the patient to see a surgeon when in Glasgow. He therefore consulted me, when I found a small soft inelastic tumour passing from the right inguinal opening. It could not be separated from the cord when the patient was standing up. It gave a distinct but slight impulse on coughing, and entirely disappeared in the recumbent position. It was noticed, however—and this I think important,—that whenever the patient stood up the tumour was there in its old place, as if it simply hung forward again owing to the patient's change of position. When the patient coughed while in the recumbent position the impulse given to the tumour could be both felt and seen, but whenever the cough ceased, or in the intervals between his coughs, the tumour disappeared. This would not likely be the case with a recent oblique inguinal hernia, which, when coughed down, generally remains down until put back by the hand. Of course the tumour in this case had no gurgling, as if it contained bowel, but felt smooth and soft, and slipped readily from the fingers to either side of the inguinal opening, into which it could be easily pressed in any position of the body. It had existed probably for a long time, and the man could not tell how his attention had been drawn to it; but when he discovered it he at once consulted his doctor in the country, who advised him to wear a truss, but it had not kept it up rightly, and hence his visit to Mr. Hilliard. I did not think this a hernia, even of omentum, but a small portion of fat—a lipoma, in short, connected with the upper part of the cord, or possibly an instance of what Cloquet actually found on dissection, and described in his work on Hernia—viz., a portion of fat belonging naturally to the areolar tissue of the pelvis, which had increased unduly and protruded through the inguinal canal. This would no doubt better account for the impulse on coughing, and the disappearance of the tumour in the recumbent position. I therefore did not press the continuance of the truss; but, as it relieved the man's mind to wear it, I advised that it should be of the slightest power of spring. It is nearly two years since I saw this man, but I have heard from Mr. Hilliard that he lately saw him, much improved in health, but with the little tumour quite unchanged in size or appearance.

I could relate, if necessary, the details of other two cases, which I still occasionally see, of precisely similar kind, only they have to my knowledge continued much longer without appreciable change. In one of these cases a slight truss has long been worn, in the other no artificial support has been employed, and both patients are very active in their habits, and enjoy quite good health. It may be worth mentioning that in the latter of these cases a truss was at first applied by the advice of another surgeon, but it was found that the little tumour constantly slipped to one side of the pad, and caused a disagreeable sensation of pinching to the patient. He therefore gave up using it,



and without any increase of the tumour, though it is nearly ten years since he first accidentally noticed its presence.

I believe that these are cases regarding which there may be much difference of opinion, especially when stated in writing without examination of the patients, or unless those who read them have had experience of some such cases for themselves. I can only say that these tumours differ from omental herniæ, with which they are alone comparable, in that they are absolutely painless and quite destitute of that dragging feeling characteristic of true epiploceles. They are quite smooth, of a regular oval shape, almost fluctuant, and slide about more widely than herniæ. These characters of tumours of the cord may be so far definitely given and appreciated without further explanation. It is not so, however, with the other two, which are perhaps the most important of all—viz., the impulse on coughing and the disappearance in the recumbent position. Let us, therefore, consider these a little more particularly.

1. When the tumour is situated high up the cord, and indeed belongs partly to the abdomen, the impulse on coughing may be as distinct as that of an omental hernia, because in such an act pressure is made equally on all the contents of the abdomen, and must tell on the tumour as it would on an omental protrusion; but as the tumour grows and descends towards the scrotum, which it naturally does by its own weight, this impulse on coughing greatly diminishes, and so it happens that in most cases, before a surgeon is consulted at all, that sign is absent, or at all events quite distinguishable from the direct and forcible impulse given to hernial protrusion, for it is then easily perceived that the tumour only partakes of the general succussion given to the whole side of the abdomen.

2. In like manner, when the patient lies down, the tumour, if small and soft and partly contained in the abdomen, may entirely disappear into the loose areolar tissue above the internal inguinal opening; but when it grows larger it cannot wholly disappear, and must remain partially in the canal, where it may be felt rolling under the surgeon's finger, and whence it falls out apparently by its own weight, more quickly than a hernia, whenever the patient stands upright. In this, perhaps, it is assisted by the elastic reaction of the posterior wall of the inguinal canal, and the tension of the conjoined tendon produced by the action of the abdominal muscles; for it is only by weakness, or at least, relaxation of that tendon, that the tumour is permitted to conceal itself in the canal. It must be remembered, too, that the spermatic cord slips up or is pulled up by the cremasteric muscle much higher in some subjects than in others; and of course any tumour of its substance, if soft and yielding like lipoma, would go along with it, and this has suggested to me to try if traction on the cord would make the tumour

descend. I think this manœuvre, if done very gently, does somewhat change the position of these tumours, and I am quite certain that it greatly diminishes the impulse given to them on coughing. Of course this arises from the traction freeing the tumour from contact with the posterior wall of the canal, and would afford good corroborative evidence of its real nature in a doubtful case. In some of these cases, however, the tumour grows both a great deal harder and larger in time, and loses many of the above characters, becoming much like incarcerated omental hernia, as in the following example:—

A man, aged forty-four, was admitted into the Glasgow Royal Infirmary on March 19th, 1884, and told us that he believed he had had a rupture on the right side for many years. It was small and reducible at first, but about seven years ago it greatly enlarged in the groin and gradually descended into the scrotum, where it still further enlarged. He averred that even then it was reducible in bed. He wore a truss, which did not at all keep it up, and seemed only to have pressed on the neck of the tumor. For the last eighteen months it had been quite irreducible and almost quite hard, but was painless to the touch. Such was the state of matters when on March 13th, six days before admission, the man was seized with violent pain in the lower part of the abdomen, but not any in the tumour. His bowels were easily and freely moved with medicine, and he had no sickness. Fomentations were applied and opiates given, so that when he came to the hospital the pain had been very greatly relieved. But the tumour is thus described in the ward journal:—"It is about the size and shape of a large Duchess pear, the thin end passing up into the inguinal canal, while the bulk of it occupies the right side of the scrotum. It is at present painful to the touch, because the skin over it is red and œdematous. It is quite irreducible, and gives no impulse on coughing." His bowels had been freely opened the day before admission. Fomentations were applied, and next day castor oil was administered, and acted freely. The pain of the abdomen had ceased, but the tumour was unchanged, and remained so until April 2nd, when I explained to the man that without an operation he could not be relieved. To this he consented, and next day, having put him under chloroform, I cut down upon the tumour, and found it covered by the sheath of the cord, and closely adherent to it and to the testicle. There was not a particle of fluid in the sheath, and it was with difficulty separated from the surrounding parts; this was, however, effected by dissecting from beneath upwards. It was then seen that the narrow part of the tumour was enclosed in the inguinal canal, and adherent to it all round, and giving no sign of its passage into the abdomen. I incised fully one-half of the canal to make sure of this, and then, being quite satisfied that I had simply the fibrous neck of the



tumour to deal with, I pierced it with a needle armed with a long chromatised catgut ligature, both ends of which I tied so as to surround the transfixed part, and then I cut it off below the ligature, having succeeded in saving both cord and testicle from injury. Lastly, I made a free opening through the lowest part of the scrotal cavity, which had contained the bulk of the tumour, and, having inserted a drainage tube, stitched up the main wound. The usual antiseptic dressings were applied. On cutting into the tumour, it was found to be fibrous in its nature, and quite hard and solid throughout its entire extent; but on submitting sections of it to microscopical examination, it was found that the fibres were here and there separated by small masses of fat. In the future progress of the case nothing remarkable occurred. For a few days there was some swelling of the soft parts on the wounded side of the scrotum, and very little discharge of pus. Nevertheless, the wounds healed slowly, and it was not till April 26th, twenty-three days after the operation, that it was noted that they had quite closed up. The scrotum had then regained very nearly its natural size, and there was no hernial protrusion to be detected on the most violent coughing, whatever the position of the body. The patient was kept under observation in the hospital for some weeks longer, and then dismissed cured.

I must remark on this case that its early history does not seem to me quite reliable, but it is clear enough that the truss did not and could not do any good. Nay, I believe it rather increased the irritation and hastened the growth of the tumour by pressing on its neck. Of course it would, in some respects, have been better had the patient applied earlier for surgical assistance, for the tumour would then have been smaller and less adherent to the sheath of the cord. Indeed, one feels amazed that the very weight of the tumour did not cause him to seek its removal; but the truth is that these tumours seem to be so devoid of pain, and to affect the health so little, that few patients would submit to an operation even if proposed to them at an earlier period in the history of the growth, and such growths naturally increase so slowly that, unless irritated by wearing a truss, they may never cause trouble or inconvenience at all (even by their weight and bulk), and therefore may be safely let alone, especially if the patient is at or beyond middle age. Nevertheless, all such cases ought to be watched from time to time, and if there should occur pain or much increase of size, or any decided fixation of the tumour as from adhesions between it and the parts of the cord, an operation may then be considered desirable for its removal; but I do not, as a general rule, advocate a too ready recourse to the knife in such cases.

The only question which remains for consideration is the advisability of the patient's wearing a truss at the first. Now

take the case—and a rare one it must be—where one sees a patient while the tumour can be completely reduced above the internal opening of the canal. It may well be asked, What good could it do to keep the tumour inside the abdomen? and would its increase there not do more harm than if allowed to pass out of the canal? Then, in the commoner case, in which part of the tumour remains in the canal, it is obvious that the pressure of a truss may do harm, especially if the patient is a working man. But if it is allowed to remain there, it may next be asked, Will there be no danger of permitting the descent of a real hernia by the dilatation of the internal inguinal opening and of the canal itself caused by the presence of the tumour? Now, for my part, I think this fear unnecessary, for the tumour rather protects from such an occurrence by its presence and by the consolidation of the infundibuliform fascia which it naturally causes, and which was abundantly evident to me when operating in the case last related in this paper. Besides, there is, in all such cases, the unimpaired form and saccular continuity, if I may so call it, of the peritoneum, which we have good reason to think is in itself a protection against a hernial protrusion. On the whole, then, I do not recommend the use of a truss in these cases unless it relieves anxiety in the mind of the patient; but I should certainly forbid it if it caused any irritation or pain in the tumour. I need hardly add, in conclusion, that whenever symptoms of strangulation are present, it is the duty of the surgeon, without delay, to cut down on any tumour in the inguinal region, however doubtful he may be of its exact nature, and then to deal with it according to what he finds it to be.—*Lancet*, May 2 and 9, 1885, pp. 792, 837.

#### 71.—SUCCESSFUL OPERATION FOR EXTROVERSION OF THE BLADDER IN A FEMALE.

By J. GREIG SMITH, M.A., F.R.S.E., Surgeon to the Bristol Royal Infirmary.

The patient, a weakly peevish child, three years old, was sent to the Bristol Royal Infirmary in October, 1884, to be operated upon for extroverted bladder. The deformity presented no special features. The gap arising from deficiency of the pubic bones was about an inch in breadth, and the recti muscles were correspondingly separated below. The tumour was about the size of a pigeon's egg, red and angry-looking, covered with vascular papillæ on its lower aspect, exquisitely tender to the touch, and discharging large quantities of ropy purulent mucus. It overlapped and concealed the openings of the ureters. Running down from the tumour was a deep groove overlying a rudimentary vagina, into which a probe could be introduced for an inch. No uterus was felt. The labia majora were over-developed, but the labia minora



were enormously hypertrophied from constant irritation by the dribbling urine. The rectum prolapsed at every action of the bowels to a distance varying from one to four inches ; occasionally it extended half way down the thigh.

I began the operation with the intention of converting the rudimentary vagina into a urethra, but the child lost so much blood from the excessive vascularity of the parts cut that she had to be removed from the operating table before this was completed. And when, at the second operation, I saw my way to provide a sufficiently long artificial urethra by other means, I thought it wiser to leave the vagina to develop whatever potential capacity it might possess. The operation I began by cutting off the nymphæ. The first one, removed by one cut of the scissors, bled from its stump at innumerable points in a manner that was almost alarming. A Pean's forceps grasped the base of the second before it was removed, and was left hanging there till the rest of the operation was completed. The next step was to turn the extroverted bladder inwards, and keep it in position by a piece of firm sponge cut to shape, and insinuated under the overlapping abdominal rim. A flap, in shape corresponding to the gap in the abdominal wall, and a little larger in size, with a small peak or projection at its upper margin, intended to be united to an opening in the upper surface of the vagina, was now dissected off the middle line, just above the tumour. Catch forceps were placed on the numerous bleeding points, and left hanging there. Starting from the middle of the incision for the abdominal flap on each side, and closely skirting the abdominal opening, two lateral flaps were now dissected up. Their bases were in the vascular and distensile tissue of the labia majora. The sponge was now removed, and the abdominal flap, turned on its face over the extroverted bladder, was accurately stitched to the raw surfaces round the abdominal opening by means of a continuous catgut suture. Two silver sutures were then carried through—first the outer portion of the lateral flaps, then the outer margins of the abdominal flap, and, lastly, the edge of the abdominal opening. When the free ends of these were pulled tight, the lateral flaps met in the middle line ; and, when they were twisted over a piece of rubber tubing, abdominal wall and under and upper flaps were all kept in accurate apposition. Horsehair sutures were now inserted in the middle line between the lateral flaps ; above, between the abdominal wall and the ends of these flaps ; and at the sides, between the same flaps and the skin in the groin. The whole surface was covered with skin ; nothing whatever was left to granulate. At this stage, after three-quarters of an hour, when I intended to finish the urethral part of the operation, the condition of the patient was so bad that I decided to do no more. A catheter was placed in the new bladder, and fixed there by strapping it to the thigh. Under

boracic ointment, perfect healing, without any sloughing, took place, and the child was sent home at the end of a month.

When she had regained strength, she was readmitted, in February, 1885, to undergo a second operation. As was expected from the imperfect manner in which the lower opening had been closed, there was some retraction of the flap, and slight exposure of the extroverted mucous membrane at its lowest part when she was standing up. The labia, drawn towards the middle line, provided such a superabundance of tissue that I decided to utilise it in making a urethra instead of the vagina. Two incisions, about one-fourth of an inch apart, were made along the sides of the groove, which represented the unclosed urethra; these were carried round the small opening from which the bladder protruded. The inner margins of these incisions were united with continuous catgut suture over a catheter placed in the bladder and laid in the groove. The labia, separated for a little way on each side, were united over all with three hairlip pins and two shoemaker's stitches of silk. A slight urinary fistula appeared at the upper end of the wounds, which closed in a month of its own accord; with this exception the whole united by first intention. The result has been a complete closure of the extroverted bladder, with an artificial urethra at least an inch long. The cavity is too small to permit of retention of urine for any length of time; as the patient gets older and the parts increase in size, it is just possible that some power of retaining the urine may develop. It is not likely, however, that she will ever be able to dispense with the use of a rubber urinal, which she now wears.

This is the third case on which I have operated for extroversion of the bladder. The other two were on males, and in each of these a complete success was got after one operation. The operative details were essentially identical, and need not be again dwelt upon. I would merely call attention to what I consider the most important steps in the operation; these are the manner in which the lower flap is accurately sutured to the edges of the abdominal opening, and the means of securing, by silver loops over rubber tubing, permanent and accurate apposition of flaps to each other, and to the abdominal walls at the periphery of the opening.—*Lancet*, July 4, 1885, p. 8.

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## 72.—CASE OF RENAL LITHOTOMY, OR NEPHROTOMY.

By R. H. BOUCHIER NICHOLSON, M.R.C.S., Assistant Surgeon to the Royal Infirmary, Hull.

Jane J., aged 42, married, was the mother of ten children. When I first saw her, she had had pain in the left loin for two years, and was not able to lie on that side. In May, 1883, she



suffered a sudden pain, which was followed by hæmaturia; this occurred again in October of the same year. In March, 1884, a large quantity of blood was passed, with much pus; in fact, pus had been passed more or less for above two years before I was called in. Lastly, in June of last year she passed more blood, and was in constant pain. She had been under four different medical men, who had told her various reasons for her trouble.

When sent for, I found her very thin, weighing about five stones, looking greatly distressed, having little or no rest either night or day, and passing eight ounces of pus in the twenty-four hours. On the left loin there was a recently blistered surface, six inches square. In the course of a few days this healed, and she could bear a careful examination, when a decided enlargement the size of an orange in the region of the left kidney was found, where on palpation I thought fluctuation could be felt.

I asked my colleague, Mr. Thompson, to see her with me; and on July 2nd, 1884, a fortnight after my first visit, I had her placed under ether by my son, and, assisted by Mr. Thompson and Mr. Freshney, performed the following operation under full antiseptic precautions. I made an incision parallel with the last rib as for lumbar colotomy; and, on arriving at the peritoneum, which was easily pushed aside, I could feel the lower and outer convex border of the kidney. I then passed a very fine aspirating needle into it. At the first insertion no stone was felt, nor did anything come into the cylinder of the aspirator. I made a second insertion, somewhat more upwards, when I struck the stone, and the cylinder filled with pus. I then carefully cut down on the needle, using it as a director, following the knife with my finger, and making the wound in the kidney large enough to introduce two fingers; after which there was not much difficulty, with the aid of a lithotomy-scoop, in removing a large branched stone, in shape rather like a piece of ginger-root. It is composed of the triple phosphates, and weighs 3 drachms and 14 grains. There was only one small vessel which required tying; and during the operation there was a slight oozing from the kidney, which soon ceased. After removal of the stone, I thoroughly explored the dilated kidney, both with my fingers and with a pair of curved forceps. A small stone, weighing six grains, was the result (this stone had a facet on it). There were eight ounces of foetid pus emptied out; before closing the wound, we thoroughly sponged it out.

I requested Mr. Thompson to examine the interior of the dilated kidney, and, then, inserting a large drainage-tube, stitched the outer wound with silver sutures, and dressed with a pad of salicylic silk. The patient rallied very well, and the same evening, the thermometer went down to 99, and only once rose higher. She gradually progressed towards convalescence, the pus slowly decreasing. Then again, during four months, she passed a rather

large number of small calculi, the size of peas, and they were accompanied with a small quantity of pus. She has had no more hæmaturia, and is gradually gaining flesh; the wound is entirely healed, only a small fistulous opening remaining, which requires a pad of lint once or twice a week.

I had a letter from her husband on July 25th, 1885, in which he tells me that she is out of town, is in first-rate health, free from pain, can stoop to pick up anything, can walk upstairs, and has been a few times out shopping a few doors from where she is staying; knitting and sewing do her no harm; her urine is all but clear. She has been in a scale this week; her weight is 8 stone 10 lbs.

Mr. A. E. J. Barker, of London, lays down some useful instructions in the shape of question and answer as guides in operations on the kidneys, which were published in the Transactions of the International Medical Congress of 1881, and of which I will give an abstract.

1. How early in the course of its formation can a calculus in the kidney be accurately diagnosed? Theoretically and practically, early operation holds out far better prospects than if performed later. He mentions the brilliant case of Dr. Sidney Coupland and Mr. Morris, in which the latter removed a small stone from a healthy kidney with complete success, without producing an urinary fistula in the loin. He says the importance of this case cannot be overestimated.

2. How early is it justifiable to operate on the organ for this condition? The earlier the operation the better, provided the symptoms are clear, and the patient's distress marked and increasing.

3. In what should such operation consist? whether in simple incision of the kidney with extraction of the stone, or nephrectomy? He thinks the whole matter is much simplified, if we adopt the idea of the antiseptic exploratory lumbar incision, with careful, but, if necessary, free puncture of the organ.

4. How late is it justifiable to attempt nephrectomy for renal calculus? Between nephrotomy with extraction of stone and nephrectomy, there is, I venture to assert, but little ultimate choice; in very advanced calculous renal disease, nephrectomy appears particularly formidable. Mr. Barker then goes on to say: "It is a significant fact, as far as the numbers go, that, out of the cases of nephrectomy for stone in the kidney which I have been able to collect, seven died; all of whom were above 30 years of age. The three patients who survived were all under 24. Nephrectomy for other causes, however, has been performed successfully on individuals as old as 53."—*British Medical Journal*, Sept. 5, 1885, p. 445.



### 73.—ON SUPRA-PUBIC LITHOTOMY FOR CALCULI OF LARGE SIZE.

By Sir HENRY THOMPSON, Bt., F.R.C.S., &c. London.

[Sir Henry Thompson, having recently performed the operation of Petersen in four cases of remarkably large stones, publishes detailed accounts of them, with some general remarks upon the high operation. The first case (reported in our last volume) was that of a man aged thirty-six, from whom a cystic-oxide calculus weighing nearly three ounces was removed. Case 2 was that of a lad aged twelve, in whose bladder a stone weighing an ounce and a half was found. Case 3, a man aged sixty-two, suffered from an uric acid calculus weighing fourteen ounces avoirdupois. Case 4, a gentleman aged seventy-three, from whose bladder a stone weighing one ounce and a half was extracted. The following is a description of the operation in Case No. 3.]

The pear-shaped india-rubber bag (see *Retrospect*, volume 91, page 289,) was first introduced into the rectum, and then distended with twelve or thirteen ounces of water. A catheter was introduced into the bladder, and nearly the same quantity injected there. The penis was firmly tied with a vulcanised catheter to prevent the fluid escaping, there being, of course, no staff. The position of the bladder above the pubes was now very distinctly visible, and could also be defined by palpation and percussion: it resembled a small gravid uterus. I made an incision of the skin and fatty tissue from the symphysis pubis upwards by transfixion, about four inches long, dissecting with the aid of a director down to the linea alba; no vessel requiring attention was met with. Arrived at the linea alba, I notched it, and incised it upwards and downwards on a director, the total extent being about three inches. I then divided its connection with the symphysis pubis on each side laterally for about a third of an inch, as well as the attachments of the recti, and separated the latter with my finger.

At this point I desire to call attention to the mode of procedure which I adopted at this stage of the operation. Hitherto it has been the custom to divide the tissues beneath the linea alba chiefly by means of the scalpel with the aid of a director; and in doing so some large veins, often troublesome, may be and are thus wounded. Professor Guyon, of Paris, who has published some very interesting records and remarks on Petersen's operation, dwells at length on the great inconvenience caused by bleeding veins, and the obscurity occasioned by the constant filling of the wound with blood from this source. I adopted the following course:—Laying aside the knife, I proceeded slowly with the nail of the right index finger, which, having tried the probe and forceps in previous cases, I greatly prefer for the purpose of scratching

through the tissues in the direction from the symphysis upwards, using the left in a similar way but downwards rather behind the symphysis, drawing at the same time any vein met with out of the way, an exceedingly easy matter, so that not one was injured. The scratching action, if I may so term it, of the right index finger has the effect also of drawing upwards the peritoneum, if it lies in the line of the wound (I think, however, in this case it did not). In less than three minutes I found, somewhat to my surprise, that I had already reached and laid bare the circular fibres of the bladder without any embarrassment from hemorrhage, and having had no occasion to tie or twist a single vessel. The sense of fluctuation from the bladder beneath the finger was now so distinct that I had merely to insert a small curved hook; holding this in my left hand, I resumed the scalpel, but solely for the purpose of puncturing the bladder sufficiently to allow my index finger to enter, which stopped the outflow of water as it passed and came into contact at once with a large stone underneath. I now insinuated the other index finger, and gradually enlarged the opening, solely by finger distension, until I made room for the use of a large lithotomy forceps. By means of this, after two or three attempts, I acquired a firm hold on the longitudinal axis of the stone, and removed it without much trouble. There was no hemorrhage to speak of, and no means were required in regard to it.

The india-rubber rectal bag and the ligature from the penis being removed, he was placed in bed on his back. No tube or catheter was introduced, and the urine drained off freely from the wound. There was very little fever, and after two days the patient was placed alternately for six hours at a time on either side, so as to provide for the outflow of urine with as little excoriation of the skin as possible. [Patient was walking about 36 days after the operation.

*Remarks.*—At the close of these four successful cases of suprapubic lithotomy, I would remark that there appears good reason to believe that this operation, with recent modifications, furnishes the desideratum which an increased employment of lithotrity has recently created. Lithotrity at a single sitting has been rendered capable of dealing efficiently and safely with almost all the cases of stone which adult patients furnish. It is frequently competent to remove uric acid calculi weighing from two to three ounces; and is so almost invariably where there is a capacious urethra, such, indeed, as is usually present in the elderly adult—that is to say, one which admits, without unduly stretching, a No. 16, 17, or sometimes a No. 18, of the English scale.

Our experience of oxalate of lime calculi scarcely enables us to say how large an example may be dealt with by lithotrity. The largest I have crushed weighed 640 grains, or nearly an ounce and a half, a very considerable stone. The problem thus left remaining for solution is, What is the best cutting operation for hard calculi



(urates and oxalates) which weigh from about two ounces and upwards, as well as for those not quite so large, which are so peculiar in form (as occasionally but very rarely happens) that the lithotrite fails to grasp or retain them? I think there is no doubt about the answer—viz., that it is the suprapubic, and not the lateral operation. By the former procedure, with the modifications referred to, the effect of the inflated rectal bag and of full vesical distension is first to make the bladder an abdominal organ, and to place the stone directly under the line of incision; secondly, to carry the fold of the peritoneum to a considerable distance above the symphysis pubis, and leave an interval there which may be safely utilised by the operator for making an opening sufficiently large to extract a calculus of very considerable size. In addition to these advantages, the incisions of the suprapubic operation are more safe and easy of performance than are those of the lateral operation, and, granted that the peritoneum is out of harm's way, they involve no structure of importance. These conditions present a striking contrast to those which characterise the line of incision necessary for the removal of a large calculus through the perineum.

The source of hemorrhage also is widely different in the two operations. In the lateral it is arterial, often formidable in amount, and in rare instances has been fatal. In the suprapubic, on the other hand, arterial bleeding is not an incident to be reckoned on; none but the smallest twigs are met with; any bleeding likely to be encountered is venous, and this may be considerable. My experience is at present small, but it suffices to furnish me good grounds for a belief that the use of the finger-nail in dividing and drawing aside the tissues will generally enable an operator to avoid the difficulties which have hitherto been described as attaching to the operation from hemorrhage.

A good deal has been written also in relation to the number and nature of the tubes to be introduced into the wound for the purpose of giving exit to the urine. I have never used one, and believe that they are wholly unnecessary—useless for the purpose named, and injurious as local irritants. After the first twenty-four hours I have placed the patient on either side alternately every six hours, to facilitate the outflow of the urine, and to prevent excoriation of the skin by thus frequently changing the direction of the current.

Finally, I think I am quite justified in believing that unless the operator has had a large experience of lithotrity—and there are not many of whom this can be affirmed—the high operation would generally be a safer proceeding than crushing for a calculus which is hard and much above an ounce in weight.

[A table of unusually large calculi removed by operation in England is given in the paper.]—*Lancet*, July 18 and 25, 1885, pp. 103, 145.

## 74.—ON THE TREATMENT OF STRICTURE OF THE URETHRA BY INTERNAL URETHROTOMY.

By W. THORNLEY STOCKER, M.D., Professor of Anatomy R.C.S.I.,  
Surgeon to the Richmond Hospital, Dublin.

[After pointing out that the bulk of cases of stricture for which the surgeon is consulted are such as to save any hesitation on their recent occurrence, and that they are generally old, well-established, and have been thoroughly cathetered, the author goes on to discuss the relative merits of the methods of Civiale and Maisonneuve.]

It is satisfactory to find that the great bulk of surgeons are agreed as to the advantages, in suitable cases, of internal urethrotomy over other methods of treatment, and that the leaders of the profession, both at home and abroad, wage their war over the minor matter of the particular form of operation to be selected. Thus, while many men of the highest eminence warmly advocate the operation done after the fashion of Maisonneuve, from before backwards, we find Sir H. Thompson, the person in England of the largest experience, advocating the method of Civiale, and cutting from the vesical side of the stricture. In the admirable lectures he delivered before the College of Surgeons last year, he entered at length into his reasons for choosing this operation; but it is difficult to follow him on this point in his arguments or his choice, for I hold that with Maisonneuve's instrument a stricture can be divided with at least as much certainty that it has been cut thoroughly as with any instrument devised for cutting from behind forwards; and I refuse to recognize the truth of this author's remark—that the system of Maisonneuve "is the product of a machine, the other is the handicraft of an artist." Sir Henry Thompson's aphorism, "If you cut at all, cut all," is a part of his teaching no one will deny the wisdom of; but I am satisfied it can be obeyed most thoroughly with the instrument I am in the habit of using. As Mr. Berkeley Hill has said, the great objection to most urethrotomes is the difficulty of using them so as to effect a thorough division of the fibrous tissue, on account of the want of means of fixing the stricture in the perineum. The method of Maisonneuve is more free from this drawback than any other, as the firm hold which can be taken of the penis during its use, and the fixation of the stricture against the edge of the knife thus obtained, is an argument in favour of the operation which is not to be overlooked.

In addition to the foregoing reasons two others may be adduced in favour of Maisonneuve's instrument. One is that the pliant nature of the steel directing rod allows the contrivance, when the surgeon is pushing back the knife, to adapt itself somewhat to the position of the passage, and that while it has sufficient rigidity and resistance to enable him to feel what he is doing, it saves the



tissues neighbouring on the corpus spongiosum from unnecessary division. The other is the well-whipped subject of the size—No. 5 or 6—to which a stricture must be dilated before Civiale's instrument can be used; and of this it is enough to say that, in spite of the high authority of the surgeon already quoted, it is, *ceteris paribus*, of advantage, and often of the greatest moment, to be able to operate at once on a tight stricture, as Maisonneuve's instrument permits. For instance, I lately did the operation, with complete success, on a gentleman suffering from acute retention, who had lacerated his urethra in his efforts to pass a small catheter, who was in a state of high fever, and who could not, before operation, bear to retain even the smallest instrument without rigors and other alarming symptoms. I can now look back over about twelve years on the cases operated by Maisonneuve's method, and, without entering into a wearying detail, I may say generally that the results have given me great satisfaction. I have never had a death, nor have I seen one except in a case under the care of a colleague, where the operation was done on a man in advanced phthisis, who had sustained a rupture of his urethra when straining to pass water through a tight stricture. This has all the more weight because the operation is one in favour with my colleagues, and very frequently performed in Richmond Hospital.

As regards the method of operation, reference need be made only to such matters as are moot points, and about which surgeons differ. The preparation of the patient is, of course, of importance. In addition to attending to the state of the urine, and, if possible, securing an acid or, at worst, a neutral reaction, the matter of most weight is to give due rest to the parts by keeping the person in bed for a few days. In men otherwise healthy, or if called by necessity, however, no hesitation need exist in dispensing with this preliminary, and I have occasionally operated in my own study without any preparation except previous clearance of the bowels.

An anæsthetic is usually administered: this is not necessary; in most cases the operation gives very little pain, not more than the introduction of a catheter for the first time into a tender urethra. The callous condition which the urethra has usually assumed is explained by the fact that it has in these patients been the seat of long-standing inflammation, and has lost its natural sensibility. Twice, in the cases of persons who were very nervous, and pressed for the use of an anæsthetic, I consented, and found nitrous oxide sufficient and satisfactory. The director was introduced before the gas was administered, and the stricture readily cut before its effects had passed off.

The size of the knife to be selected is an important point, and should be determined by previous careful measurement of the calibre of the urethra. It is particularly necessary to avoid the fallacy of being guided by the size of the meatus, which, if small,

should be divided, and a careful exploration of the passage made, so as to determine the number and size of any strictures that exist. Failing the determination of the normal size of the canal by bougies or sounds, it is best to form your opinion by the use of Otis's rule, and to be guided by the circumferential measurement of the penis. In practice I have found generally that if I erred it was in using too small a knife, and now I usually employ the largest blade ordinarily supplied with Maisonneuve's instrument.

The surgeon has next to decide whether he will incise the floor or roof of the urethra. Differing from Sir H. Thompson, and agreeing with Professor Otis on this point, I prefer to make my cut on the pubic wall, and for this purpose use that form of Maisonneuve's urethrotome which carries the blade along its concavity. There is but one reason to be adduced for the inferior incision—that the greater thickness of that portion of the corpus spongiosum lying below the urethra renders it less likely that the knife will go completely through it, and, entering neighbouring tissues, produce extravasation. Against this are to be set the facts relied on by Otis, that the superior wall is less vascular than the floor, and its incision therefore less likely to produce troublesome hemorrhage; and, again, that as the tissues involved in the stricture are much thicker below the urethra than above it, an incision sufficiently extensive to divide it completely is more likely to cut into neighbouring parts than if made above. Besides, it seems that an incision made through the roof of the urethra into comparatively healthy tissue is less likely to be followed by contraction than when carried through the more unhealthy structures below, infiltrated, as they are, by lymph. The larger amount of erectile tissue situated beneath, with its freer condition, and the consequent ease with which its infiltration is effected, together with the greater liability to disease generally found to exist on the inferior as compared with the superior aspects of tubes and cavities, accounts for the frequency with which inflammatory trouble limits itself to the floor of the urethra. The stricture having been thoroughly divided by pushing the knife backwards through it, more than once if necessary, until all sense of resistance ceases, the instrument is withdrawn, and a full-sized catheter—generally 14 or 16—passed into the bladder.

Most surgeons tie in the instrument and leave it for twenty-four or forty-eight hours, after which it is withdrawn and passed daily at first, and then at longer intervals. From this practice I am compelled to differ; most of the troubles I have seen following the operation have resulted from leaving in the catheter; and I have relinquished this habit, and, having passed it at the conclusion of the operation, withdraw it. Since adopting this plan I have found much less constitutional and local trouble follow the operation.—*Dublin Journal of Med. Science*, June 1885, p. 474.



## 75.—ON THE RADICAL CURE OF VARICOCELE.

By HENRY LEE, F.R.C.S., Cons. Surgeon to St. George's Hospital.

The difficulty of performing an operation for the radical cure of varicocele which is at once safe and effective, without any prolonged after-treatment, is evidenced by the number of different proceedings which have of late been advocated. Favourable results have been obtained by most or all of these methods where the veins have been simply enlarged; but in the severer cases, especially when accompanied by a relaxed condition of the skin of the scrotum, the benefit derived from the operation has been only temporary.

The operation which I have now been in the habit of performing for some years in such cases is as follows. The surgeon's hands and instruments are washed in a solution of carbolic acid and wiped dry. The patient is placed in a convenient position, generally on the left side of the bed, under the influence of ether. A portion of the skin of the scrotum is then pulled up and removed either by curved scissors or a knife. The longest diameter of the wound should be transverse. The edges of the wound separate to a considerable distance. The enlarged veins are rolled between the finger and thumb, and can easily be distinguished from the vas deferens. Should there be an artery of any size among the veins its pulsation can be felt, and in that case it is separated from the veins before the operation is continued. A hare-lip needle is then introduced through the wound under some of the veins, and a figure-of-8 ligature tied round its ends over the veins. The same thing is done with another needle about half an inch distant. A thin knife is then introduced on the flat beneath the veins, its edge turned towards the surface, and the veins divided. An ordinary iron cautery, previously heated in the fire, is dabbed on a wet sponge until very little steam is produced; the cautery is then applied to the extremity of the divided veins, and allowed to remain quietly in contact with them for a quarter or half a minute. The tissues adhere firmly to the iron and to each other, and the blood is firmly coagulated in the veins. In order not to disturb the parts by any unnecessary violence, the tissues are gently separated from the cautery by the handle of a scalpel. The needles placed under the veins are now removed and the edges of the wound brought together by short fine hare-lip pins, or by a continuous suture of carbolised catgut. The loss of blood in this operation often does not exceed a teaspoonful. The wound generally heals in great part by first intention. The cautery, applied as described, produces no slough. The charred surface is absorbed, as are also the clots in the veins. At the end of forty-eight hours the patient may be removed to a sofa, and may leave the house within a week.

The son of a medical man had for years been troubled with greatly enlarged veins and a relaxed scrotum, accompanied with

occasional pain. He was operated upon on a Wednesday, and went down to Brighton on the following Tuesday. An officer in the army, having little time at his command, and wishing particularly to see his friends before rejoining his regiment, had the operation performed, and left London within a week. In both these cases the result was most satisfactory. Details of cases might readily be multiplied.

The only inconvenience that has arisen is that in some instances a portion of the wound has been long in healing, but this is accompanied with no pain, and does not prevent the patient going about his usual avocations. It may, however, not be altogether a disadvantage to allow the wound to granulate, as the longer that action continues, the firmer will be the cicatrix. The one danger in operating for varicocele is absorption by the open mouths of the veins. If these are effectually closed, a wound in the scrotum may be safely treated in the same way as a wound on any other part of the body, and it requires no very particular attention. When a vein is divided by ligature, or if a red-hot cautery be applied, some amount of ulceration and suppuration necessarily takes place. Both these processes are incompatible with the adhesive action, and the latter can only commence when the former has ceased. If a ligature be applied to a vein, a patient is never safe so long as it is ulcerating its way through; and the same may be said when a portion of the vein is made to slough by the application of the red-hot iron or by the galvanic cautery. The caution that surgeons have always shown in dealing with veins affords abundant evidence of the risks incurred if the veins be not completely closed. This object is effectually accomplished by the application of the actual cautery as above described. The parts are glued together before the operation is completed, a chemical adhesion of the different tissues takes place, the blood in the veins is firmly coagulated, and the vessels are securely sealed.

Many years ago a patient presented himself at St. George's Hospital in whom the scrotum was so relaxed that when he lay upon his back the testes would hang over on the outer side of the left thigh. There was a well-marked varicocele. It was thought practicable to remove a large portion of the skin of the scrotum, and to obliterate the veins at the same time. Two needles were introduced under the most prominent veins far apart. Over the ends of each needle a figure-of-8 ligature was passed, so as to command any bleeding from the veins. The intermediate portion of skin, together with the subjacent tissues containing the enlarged veins, was then removed, leaving a very considerable gap. No hemorrhage occurred. The needles were then drawn towards each other and the edges of the wound held in position. The wound readily healed, and the testis was subsequently retained very nearly in its natural position. This was the first case in which this operation was per-



formed. Previous to that time no one thought of cutting deeper than the skin, as no means were then in use which would effectually control hemorrhage from the spermatic veins. In the operation which I now perform, the portion of skin to be removed is dealt with first, and the veins divided afterwards. The veins are sealed so as to prevent hemorrhage on the one hand and absorption on the other, and the needles at once removed.

In cases of varicocele where the scrotum is not relaxed, the subcutaneous division of the veins answers very well without the removal of any skin. It was originally proposed to allow the needles which compressed the veins to remain undisturbed for forty-eight hours. It has since been suggested that they might be removed at an earlier period. As far as any fear of hemorrhage is concerned, this might certainly be done; but, on the other hand, there might be a danger of the circulation through the veins being restored before their divided extremities were consolidated. In the severer cases in which the scrotum has become unnaturally pendulous, it is advisable to remove more skin than at first might appear necessary, so that that which is left may act the part of a suspensory bandage.—*Lancet*, April 18, 1885, p. 695.

#### 76.—ONE HUNDRED CASES OF VARICOCELE TREATED BY THE SUBCUTANEOUS WIRE LOOP.

By RICHD. BARWELL, F.R.C.S., Surgeon to Charing Cross Hospital.

On the 10th ult., two lads, Henry B——, aged seventeen, and John J——, aged sixteen, came under my care for the cure of varicocele, which had caused their rejection by the examining officers of Her Majesty's navy. On April 16th I performed on these lads the operation which I introduced some years ago—viz., that of passing subcutaneously round the veins a wire loop, which, being tightened every other day, first occludes and then slowly cuts through them. In the case of Henry B——, this process was completed and the wire came away on the thirteenth day; in the case of John J——, on the fifteenth day. In neither case was there any suppuration or swelling, and only momentary pain at the times of tightening the wires. I have already described the method of operating, and shall therefore on the present occasion give a very brief account of the procedure, the object of this communication being to analyse the results of 100 operations which I have now performed.

The only instruments required are a needle armed with about ten inches of silver wire, gauge twenty-six, or even a little less; a pair of pliers, and an oval shield of vulcanite, one-eighth of an inch thick, with a long diameter of an inch, a short one of about three-quarters of an inch. Near each end is a brass upright, projecting a quarter of an inch. Close to the spots where these up-

rights are fixed, the shield is perforated by oblique channels which open on the other side near the centre. The surgeon must very carefully separate all the veins from the vas deferens, and squeezing together between his left thumb and index the two sides of the scrotum, he keeps the duct and the spermatic artery behind and the veins in front. He then thrusts the armed needle through that half of the scrotum from without inwards, thus placing the silver wire between the above-named parts; he then re-introduces the needle at the previous hole of exit, and when its point lies within the scrotal cavity he relaxes his grasp on that part, and partly by passing the needle onward, partly by manipulating the veins behind its point, he brings the original opening of entry towards it and extrudes the needle. It is only necessary to be sure that no veins escape, and that no part of the lining fascia of the scrotal cavity is included. When these manipulations are completed, the veins are encircled by a loop of wire, the ends of which hang out of one puncture at the outer side of the sac. These ends are passed each through one of the holes in the shield, and when drawn sufficiently tight are secured by twisting them round the uprights. It is well, however, to place three or four folds of lint—or, better still, a piece of felt, in which a slit has been cut—between the shield and the skin. Every other day the wire must be unwound from one of the uprights, tightened, and replaced. Thus it acts as a very slow *écraseur*, and cuts through the veins in some time between eight and sixteen days, according to the bulk of the varicocele.

Of the 100 cases operated on by me in hospital and private practice, I have kept notes; their analysis is as follows:—In no case was there any bleeding, shivering, pyrexia, erysipelas, or other disquieting manifestation. In 16 there was slight suppuration; in 15 of these the pus found its way out along the wires, and gave rise to no trouble; in 1 a little abscess formed in the thickness of the scrotum, and was evacuated by an incision one-third of an inch long. In 12 there was a little ulceration where the shield pressed against the skin; it healed when the wire came away. In 1 there was some orchitis, which lasted five days. In 71 there were none even of these trifling complications, the course of events being precisely like that of the cases above recorded. Three patients would not submit to be confined, but walked out after the second day; one of these belonged to the class in which some suppuration occurred, the other two to that in which no complication took place.

The above may be termed the immediate effects of the operation. There remain still to be considered the remote or ultimate result, and therewith the conditions previous to operation.

*A* (1 case).—Testicle only represented by a small pultaceous mass; the bunch of veins considerable, larger than the gland. (Patient aged twenty-seven.)

*B* (13 cases).—Testicle very soft and small.



*C* (47 cases).—Testicle much diminished, and of considerable softness.

*D* (32 cases).—Testicle somewhat diminished and soft.

*E* (7 cases).—Slight varicocele operated on for the sake of passing examination.

In the first four categories, chiefly in the second, third, and fourth, the organ was the seat of more or less pain; in 23 cases this was severe.

*A*.—The pain ceased, and the testicle became both a little harder and larger; the patient thought it regained some function. He married five months after the operation, and is the father of four children.

*B, C, D*.—In every case the testicle became harder, and regained some of its dimensions immediately after the operation, but did not entirely resume its natural consistence and size until after a considerable time; in some of the worst cases, so far as I was able to trace, being as much as two years; in others, and more especially in the younger patients, three months.

*E*.—The slight cases under this heading passed the examining board very soon after operation.

I lost sight of most of my 100 cases within a few months of operation, chiefly hospital patients, some of whom I never saw again after their discharge. One case (*A*) I even now see occasionally, nineteen years and a half after operation. The left testicle is still smaller and softer than normal; the right one is healthy, and unusually large. Of the 92 belonging to classes *B, C, and D*, I have only seen 28 at an interval of more than six months after operation. In all of these, except 2, whose testicles were still somewhat soft, a perfectly normal condition existed. One of these cases, a gentleman who had been married fifteen months, had a rather large varicocele; the testicle was very slightly softened; but he had almost constant pain in it, and after coitus this was so increased that he described it as agony. After operation the pain subsided considerably, and in seven weeks had entirely disappeared, nor did it recur. I kept this patient under observation for twenty-seven months. Three others (not included with the above 28) contracted gonorrhœa and one syphilis. Of the former, one had orchitis of the left (very slight) and one of the right testicle. The gentleman who contracted syphilis neglected himself, and remained deeply affected for nineteen months. Since that time he has remained free from any manifestation, except occasionally ulcerated fissures at the side of the tongue.

This is all the information I can give concerning the 100 operations. The safety and efficacy of the procedure are, I think, fairly attested by these results. The very slight degree of pain, either at the time or afterwards, should also be mentioned. I have operated on five cases without any anæsthetic.—*Lancet*, May 30.

## 77.—ON CONGENITAL TUMOURS.—A CLINICAL LECTURE.

By JAMES HARDIE, F.R.C.S., Surgeon to the Manchester Royal Infirmary; Lecturer on Clinical Surgery, Owens College.

By the term "congenital tumour," I do not mean to include all tumours which may be met with congenitally, nor do I mean to exclude all tumours whose existence is not evident at the time of birth. The cases I refer to are those of tumours which are dependent on and arise from mere developmental errors of the normal tissues. They are associated with the growth of the embryo, and as a matter of fact, have nearly always grown to such a size at the time of birth as to be recognisable at that period, or very shortly after it. The errors of development which produce these tumours may be classified as follows:—(1) Included foetation; (2) dissociated blastoderm (dermoid cysts); (3) tissue hypertrophy (fibro-fatty tumours, cystic tumours, and naevi).

1. *Included foetation; attached foetus.*—In the development of the blastodermic vesicle the normal course is the formation of a single embryonic area, and subsequently of a single primitive streak and a single medullary groove. If, however, a double embryonic area be formed, two embryos will result in place of one only; and if these areas come in contact, a fusion of the two, to a greater or less extent, may take place. As a result there will be a double foetus. The degree of attachment in such a case may vary from a mere band of soft tissue, as in the well-known case of the Siamese Twins, to an extensive coalescence and fusion of a part of the skeleton. The latter result is the more likely to occur, according as the duplication supposed takes place at a later period than the appearance of the embryonic area. Instead of being merely "attached" in the manner indicated, the coalescence may be so complete that one of the germs may be surrounded by the advancing development of the other, and its growth seriously compromised. Thus it might occur that a limited portion only of the parasitic foetus attains full development, and monstrosities of various kinds be thus produced. Projection of one or more limbs of the parasite from the body of the host is an ordinary example of such a monstrosity. It may even happen that at the time of birth the inclusion may be still complete, and the abnormal condition only become manifest by the sprouting forth of the parasitic members at a later period. While these various forms of monstrosity are sufficiently interesting from an embryological point of view, they have very little of surgical interest in them; and I have alluded to them merely to give an aspect of completeness to the subject I am dealing with. We pass on to a class of cases to which the appellation of the term



"tumour" is strictly accurate, but whose genesis may still be referable to the same errors of development as have produced the exaggerated condition I have just mentioned—that is to say, to foetal attachment or inclusion. Closely connected with certain parts of the body, more particularly with the sacrum, the ovary, and the testis, tumours are sometimes met with of a cystic formation, containing a quantity of more or less developed foetal structures, such as cartilage, bone, viscera, skin, hair, or sebaceous matter. It is probable that, here, again, there has been a fusion of the germs of two individuals. It has, however, been more complete than in the former instances, and, from certain causes operating at a very early period, probably from the cutting off of its proper blood-supply, the due development of the included foetus has been arrested. It thus comes to be dependent for its nourishment on the blood-supply of that part of the host to which it is more particularly attached. As this would generally be provided by vessels of insignificant size, the quantity will be too niggardly to permit of more than a very tardy and incomplete growth of the aberrant structures. If I except, possibly, one or two ovarian tumours, I cannot refer you to any example of this class of tumour in my own practice; but I remember very well the case of a young woman who was under the care of Professor Lund in this Infirmary, and who had what, I believe, was such a tumour, situated between the sacrum and rectum. In such cases the question of operative treatment will frequently arise, and it will depend largely on the extent of the dissection required to extirpate the growth.

2. *Dissociated blastoderm*.—I have said that the foregoing cases are probably due to the inclusion of a second foetus. The implied reservation has reference to the mode of origin of the next class of congenital tumours which I have to mention. We have seen how the germ of one foetus may be enveloped in that of another, and cut off entirely from its proper connexion with the maternal structures. It becomes displaced and detached. In a similar manner you can understand how, in the process of evolution and growth of the layers of the blastoderm of a single foetus, there may be an inclusion and separation from its proper connections of some portion of one or other of the three layers. I shall speak to you immediately of cases of tumour which, by common consent, are explained in this way; but it is possible enough that some of those which I have just been referring to, which contain foetal elements of various kinds, may, in reality, have been produced by some dislocation of the blastoderm of the subject, and not by foetal inclusion. Probably one would determine the matter by the degree of variety of the contents of the tumour in question. The cases which appear undoubtedly to arise in the former manner are those whose contents consist simply of structures belonging to the skin and its appurtenances. Such tumours are of comparatively fre-

quent occurrence, and are denominated dermoid cysts. They are met with most frequently in the ovary, under the roof of the orbit, in the neck, and on the head. They are to be regarded as due to a displaced piece of epiblast, which, slowly growing according to its original character, in its foreign soil, presents in process of time an epidermal sac with included sebaceous matter, hair, teeth, or it may be bone, according to the situation to which it primarily belonged. A good example of such a tumour you saw lately in my female ward. Mrs. —, aged thirty-eight, had a tumour over the middle of the forehead. At birth it was about the size of a marble, and it had gradually increased to be larger than a fist. Situated where it was, there appears to have once been a suspicion that it might be an encephalocele, and operation was not advised. At the time we saw the patient, however, we were at once satisfied of its real character by the peculiar feeling it had when taken between the fingers. It was easily compressible, and felt somewhat like a bladder of half-melted tallow. For some distance around the most prominent part, the skin was closely adherent to the tumour; elsewhere it was separated by cellular tissue. I exposed the growth by a crucial incision, taking care to include a considerable portion of skin, for the reason that this structure in such a case is not simply stretched over the surface, but actually redundant. The dissection was easily accomplished, and the tumour removed from a saucer-like depression in the frontal bone. At one small spot there seemed to be complete perforation of the bone. The tumour consisted of a thin cyst-wall, containing sebaceous matter in various stages of softening and numbers of long fine hairs. All such cases occurring on the surface of the body are readily removable by excision.

3. *Tissue hypertrophy*.—At almost any period of life there may be a tumour formation from a simple overgrowth of some texture or organ, as in the case of fatty tumours or of adenoma of the mamma; but in the foetus, in which the process of growth is so exceedingly active, there would appear to be a peculiar tendency to such an accident on the part of certain tissues, in consequence of which we have the formation of certain tumours almost peculiar to this period. Occasionally there is met with a congenital hypertrophy of the whole of the structures of a limb or other part of the body; but the tissue which is more especially prone to this excessive development is the ordinary connective tissue, with its contained fat. To a less extent the skin may be similarly affected, and in another class of cases the cutaneous and subcutaneous blood-vessels. In an individual case there may be hypertrophy of all of these tissues, but it is usually most pronounced in one or other, and different varieties of tumour due to this cause are accordingly recognised.

I show you here the photograph of a congenital tumour hanging



from the back of the leg of a man aged thirty-two, who was a patient here some time ago. At birth, it would appear, it was quite small; but as he advanced in life the tumour steadily increased in size, until it measured five inches in length by three in width at the time he presented himself to have it removed. It was attached to the leg by a flattened pedicle about an inch in diameter, and evidently had no connexion with the deep structures. It was uniformly firm in consistence, but not so dense as a fibrous tumour. The skin which covered it was coarser in texture than that in the neighbourhood—a circumstance which may have been an original character of the growth, or which may have been occasioned by the repeated inflammatory attacks to which it was subject by the friction of his clothing. It was on account of this frequent accident that the patient at length determined to have it removed. This was accomplished easily enough. The tumour was found to be an outgrowth of the subcutaneous connective tissue, and on section it presented the appearance of coarse bands of fibrous tissue, with loculi containing fat. Such tumours or hypertrophies are not always so easily dealt with. They are not always pedunculated, but sometimes form ill-defined projections from the surface with wart-like hypertrophy of the skin. At other times the condition met with is an overgrowth of the whole of the skin and cellular tissue, investing the distal portion of a limb, as the foot or hand, or one or more fingers or toes. In some cases the fatty, in others the fibrous, tissue predominates; and occasionally there are small cyst-like interspaces containing clear fluid.

This last condition leads us on to the next variety of tumour which I have to mention to you,—viz., the congenital cystic tumour. In the previous case the occurrence of cysts is a rare event, and is to be regarded as merely accidental and of little importance. In the case of the tumour I am now speaking of, however, the cystic formation is the essential feature. Of all parts of the body, it is most frequently met with in the neck, and, although also occurring in other parts of the trunk, has never, according to Mr. T. Smith, been met with in the limbs. This tumour has its origin in the connective tissue under the deep fascia. It can usually be ascertained to be intimately connected with some portion of the deep fascia; but as it grows it forms a well-defined tumour separated from the surrounding structures by cellular tissue. It consists partly of solid and partly of cystic tissue, and there is every variety in the proportion of the two constituent parts. In the neck, it is sometimes met with as a single dense walled cyst, containing thin straw-coloured fluid, which some people call a hygroma. Some time ago there was such a case under my care here, in a young man aged eighteen. The tumour was the size of a duck's egg, and was situated in the posterior triangle. I dissected it out and the case did

well. It is better to treat them thus than to annoy your patient and yourself with setons, injections, and so forth.

In other cases the cysts are multiple, and for the most part intercommunicate. The case of L. L——, a girl aged six years, sent to me by Dr. Cran, and whom some of you saw, was a good example of such a case. There was a tumour lying in the right groin, extending from the anterior superior spinous process into the labium. It was evidently attached to the abdominal wall, though it had turned over and had obscured Poupart's ligament. There was not much doubt as to its nature, particularly when regard was had to the fact of its being a congenital tumour. At birth it was about a fourth of the size, and it was still growing when the patient came under observation. In the upper part of the thigh, quite separate from this tumour, there was a second swelling about the size of a hen's egg. It was soft, projected but little above the surface, and had no very distinct outline. The parents knew nothing of this second growth, and in the absence of any history I came to the conclusion that it was probably a self-cured nævus. I treated this case by making a single incision over its entire length and dissecting it out. Its most intimate attachment was to the aponeurosis of the external oblique, more particularly to that part of it which forms the external pillar of the inguinal canal. To this it was so closely adherent as to appear to have grown from it. Elsewhere its connexions were loosely cellular. The second tumour was not interfered with, nor do I think that it will ever require interference, as it appears to have diminished somewhat in size since the time when the child was in the hospital. I show you the tumour; as you will see, it is composed of a number of intercommunicating cysts of various sizes, from a hen's egg to a pea, with dense fibrous septa; they contained amber-coloured fluid.

Here is another such tumour which I removed from the front of the neck of a child five months old. It is the size of a large orange, and was growing so rapidly as to be placing the child's life in imminent peril. It had pushed itself under the edges of both sterno-mastoids and had very close attachments to the surrounding parts, so that its extirpation was difficult and tedious. Happily, however, this was at length accomplished, and its removal gave new life to the child, who soon became quite chubby. You see that the section of this tumour closely corresponds with that of the other, except that the cysts are smaller and more numerous, and that the septa are thicker and in places of gristly consistence. The usual explanation given of the formation of the cysts in this form of tumour is that they are due to an expansion of the normal lymph spaces in the cellular tissue. I cannot say that this explanation is very satisfactory to my own mind; I cannot, however, suggest a better; and if this be the correct pathological explanation, it certainly stamps these congenital growths with a peculiar individuality.



The last variety of congenital tumour to which I have to refer is that due to an overgrowth of vascular tissue. This is the familiar *nævus*. We have not time, nor have I the wish, to enter at present at any length into this very extensive subject, either as regards its pathology or its treatment. You must, however, regard *nævus* as due to this same peculiarity of certain tissues, in the foetal condition, to take on an abnormal development, to which I have been referring. *Nævi* occur with by far the greatest frequency in the skin, or in the subcutaneous cellular tissue. They are occasionally met with in bone and in glandular structures. In some examples the capillary system is probably that in which the affection has its origin, but co-incident with this there also occurs an overgrowth of the efferent vessels. There is a multiplication and dilatation of both sets of vessels, while the basis tissue is reduced to very small dimensions. In other cases the capillaries are of normal size, while there is a varicose dilatation of the venules, which push aside the intervening tissue so as to produce a well-defined tumour of turgid vessels embedded in the surrounding parts. When the growth is excised it presents a shrunken trabecular structure. Sometimes this affection causes a mere florid colour of the skin, which may be but slightly elevated. At other times the subcutaneous tissue is also more or less involved, and in a third variety the affection is situated in the subcutaneous vessels exclusively, producing a more or less prominent subcutaneous tumour.

I will illustrate this variety of congenital tumour by referring to an important case which came under my care some time ago. This *nævus* was certainly one of the largest and most formidable which has ever been met with, as you may judge from the photograph which I pass round. It was also of much interest from the successful issue of the very simple method of treatment which I adopted. As you see, the tumour involved the whole of the leg from the knee to the ankle for two-thirds of its circumference. The child was brought to me when only a fortnight old, and when the part was uncovered, its aspect was certainly alarming. The circumference of the affected leg was nearly three times that of the other. The surface was of a bright-red colour, and the skin was in some places so thin that it appeared as if rupture might take place at any moment. The tumour was growing with great rapidity. I feared that amputation of the limb was the only resource open to me: but observing how materially I could diminish the size of the growth by grasping it firmly in my hand, it occurred to me that something might be effected by means of continuous pressure. To this end I bandaged it carefully with elastic webbing, trusting that by compressing the vascular network and at the same time inducing a certain amount of inflammatory effusion into its basis structure, permanent obliteration of the vessels might be produced. This treatment was entirely successful. I was anxious that I should

not cause ulceration of the surface, and therefore reapplied the bandage, with but moderate tightness, daily for a few times; but on taking it off, even on the second day, the delicate cutaneous envelope gave way in numerous places, with the immediate result, of course, of an outburst of blood—a very serious matter in so young a child. The part was instantly grasped, however, and the bandage reapplied. After a few days I had the satisfaction of finding the growth becoming solidified and diminishing rapidly in size. In a fortnight's time, I may say, the nævus was non-existent. This photograph shows the appearance of the part some weeks later. Of course this was an altogether exceptional example of nævus. The treatment also was not such as you will very often be able to adopt. But it is a case you will do well to remember. Bear in mind, especially, when you enter upon practice, the exceeding usefulness of pressure as a therapeutic means, for it is in a great variety of circumstances of the greatest usefulness, while it is too apt to be forgotten altogether. I will spare you the recounting of other methods of treating nævus.

In addition to these various forms of tumour, peculiar to the foetal stage of existence, you must bear in mind that almost any other variety of tumour such as we are accustomed to meet with in later life, may also occur congenitally. It is true that such tumours are rare in the foetus, but there is no intrinsic reason why they may not be found in this association. With these, however, we have at present no concern.—*Lancet*, May 2, 1885, p. 785.

#### 78.—ON THE ETIOLOGY OF ECZEMA IN CHILDHOOD.

By Dr. P. G. UNNA, of Hamburg. (From an Abstract by Dr. HENRY ASHBY, Manchester.)

The etiology of eczema forms one of the darkest, and yet, at the same time, most hopeful chapters of practical medicine, for the elucidation of which the specialist requires all the help he can get from the experience of the general practitioner. As little harmony on the subject exists at present among dermatologists, reference will be made to the opinions of two of the latest writers on the subject. Dr. Bulkley sees in eczema only an expression, as it were, of a constitutional state, the skin inflammation depending upon the existence of a gouty, scrofulous, or nervous diathesis, and requiring both internal and external remedies. He reports many cures without any local treatment, and believes that many of the failures of others have been due to the neglect of constitutional treatment. Unna congratulates Bulkley upon the sagacity with which he distinguishes the various constitutional states, and thanks him for the information contained in his work, and while not agreeing with all his etiological theories, gladly utilises his facts as a guide to treatment. Bohn's contributions to "*Gerhardt's Handbook of Diseases of Children*" may be taken as representing



the prevailing opinions of the Vienna school. He knows no eczematous diathesis, but looks upon eczema only as a peculiar form of skin inflammation, which can be produced by the most varied forms of external and internal agents and constantly exhibiting the same character. According to him, the artificially-produced eczemas are the best proof of the non-specific non-diathetic character of idiopathic eczema. Such, then, are the views concerning the origin of eczema to be found to-day in the books. The author believes the best division of the causes producing eczema may be made in the following way:—(1.) Causes residing in the skin itself. (2.) External causes. (3.) Internal causes.

(1.) *Causes residing in the skin itself* may be divided into those which affect the skin as a whole, and those which affect only local parts of it. Under the first head, Bohn has rightly pointed out that a diet containing too much starch produces a fatty condition of body, which is met with in a large number of eczematous children during the first and second year, and with the removal of this condition, and also the sluggish bowels so often combined with it, the eczema disappears. It is not easy to say what part each plays in the causation of the eczema. Apparently it is in part due to the habitual congestion and anomalous nourishment of the skin, and in part connected with the clayey stools and indolent bowels. Whatever may be the explanation, there can be no doubt that eczema in fat children is exceedingly obstinate. The cause of this obstinacy is apparently to be found in the slow circulation of the blood and lymph. Here the condition of the circulation resembles that in the legs where varicose veins are present, and in both cases also a sluggish circulation and peristalsis of the bowels tends to make matters worse.

Another predisposing cause to eczema in later childhood is the tendency which sometimes exists to hypertrophy of the elastic and muscular tissues of the skin. This condition is constantly combined with anæmia of the skin, disappearance of the subcutaneous fat, and a tendency to over-development of the horny layer. This contracted condition of the skin is most marked in the extensor surfaces of the extremities, and is generally noted first at six or seven years of age, increases towards puberty, and then, especially under the influence of treatment, may disappear. Such a condition of skin resembles that known as goose-skin without being produced by the influence of cold. It is not known for certain whether this condition produces eczema, or only a fruitful ground for it to flourish.

Another condition which favours eczema in later childhood is a thinness of the epidermis which heals with difficulty. Children have, as a rule, a relatively thick epidermis, and a thin cutis or true skin.

Among the local causes producing eczema we have an excessive

secretion of the sweat glands and an accumulation of fluid where the surfaces come in contact, as in the folds of the groin, vulva, axilla, &c. Another group of local eczemas are due to an excessive secretion of neighbouring mucous membranes. Examples of this kind are found in the eczemas of infants from wet napkins, of the external ear from otorrhœa, in the neighbourhood of the eyes and nose in conjunctivitis or ozæna.

(2.) *External Causes*.—These may be divided into—(a) Irritation produced by physical or chemical causes. (b) Contagious causes. To the first belong the well-known eczemas produced by heat, friction, or chemical agents, as sulphur, mercury, alkalies, or by the irritation produced by scratching. All these eczemas have the same characteristics, that they are confined to the neighbourhood of the irritation, display no tendency to extend, and are easy of cure when their cause is removed. To the second group belong the eczemas produced by various animal parasites, as the pediculus and the acarus. We must also include those forms of eczema which are due to the presence of vegetable parasites. Under this head comes the dermatomycosis recently described by H. Hebra, which affects the flexures of the joints, more especially the knee, elbow, and axilla (*Eczema flexurarum*). This eczema consists of dry, yellow-grey itching papules, which, if there has been much scratching, run together and form large red sharply-circumscribed plaques. The author has seen the affection in infants during the first month, but it occurs more frequently about puberty. Fungus elements were found in all recent cases, and this form of eczema must unquestionably be regarded as a dermatomycosis, as would appear from its cure when treated as such, but the final proof must consist in the cultivation and inoculation of its fungus. Little masses of micrococci (zooglœa) have been seen by the author in all cases, and some of the higher forms of fungi (hyphomyceten) have been detected. A somewhat similar form of eczema, distinguished by its intense itching, has been noted on the eyelids, around the nares and mouth, and also on the scrotum.

Another form of eczema, coming under the second group, is one called by Unna *Eczema psoriatiforme*. It affects the uncovered parts of the body, namely, the face, neck, and wrists, and consists of yellowish-grey desquamating patches, varying in size from a pea to a fourpenny piece. Its limitation to the bare parts of the body distinguishes it at once from pityriasis vesicolor and herpes tonsurans; nor is any fungus to be found. The peculiar colour, the absence of any redness or bleeding on removal of the scales, distinguish it from psoriasis, for which in its abortive form it might readily be mistaken. It sometimes disappears spontaneously, or is cured by the mildest anti-parasitic treatment, but it occasionally passes into a very obstinate eczema of the face.



Eczema bullosum, or scrophulosum, the well-known impetigo, must be included in this group. The importance of this form has increased since the etiology of tuberculosis and scrofulosis has become clearer. Impetigo may be the first link in the chain of events which ends in general tuberculosis. There may be a scrofulous eczema, caseating and suppurating glands, lupus of the succeeding scar, and finally a universal tuberculosis. The author is not a believer in a scrofulous diathesis. He has never seen a "scrofulous child" with swollen glands in which he has not discovered evidence of the existence, at some time or other, of the source of the irritation in the shape of an eczema of the eyelids or upper lip, with the catarrh of the nasal mucous membrane, or of the external ear, or at least some primary cause. All these affections may be considered as the first step or act in a process which leads up to tubercular disease. All are readily cured by cod liver oil given internally and applied locally, aided perhaps by some anti-parasitic, as an ointment containing red precipitate.

Eczema seborrhoicum is a very chronic and indolent eczema, of doubtful parasitic origin, which usually attacks the scalp and is distinguished by its fatty crusts and scales, but differs from the eczema bullosum in not leading to caseating adenitis. The fatty matters are due to the secretion, not of the sebaceous, but of the sweat glands, for where the face is affected, usually the parts about the eyes, nose, and mouth (the region of the sebaceous glands) remain free. Occasionally this form of eczema affects the neck and arms, more rarely it is general.

Eczema paratypicum concludes the series of contagious and self-infecting eczemas. This term has been applied to chronic eczema by Auspitz. Unna applies the term to a parasitic form of eczema, of an exceedingly chronic and obstinate nature, of which the character is apt to change from time to time from a weeping eczema to scaly patches resembling psoriasis. The likeness of these patches to psoriasis is so great, especially on the inferior extremities, that only the severe itching and the occasional weeping permits of a diagnosis. This form does not often occur in infancy.—*Medical Chronicle*, April 1885, p. 64.

## 79.—OBSERVATIONS ON THE DIAGNOSIS OF SMALL-POX.

By ALEXANDER COLLIE, M.D., &c., London.

One might fairly think that a disease characterised by symptoms so definite as those of small-pox would rarely give rise to much difficulty in diagnosis; but although there is less difficulty in the diagnosis of small-pox than in that of the continued fevers and the other acute diseases, it is not only not always easy of diagnosis, but occasionally very difficult. The chief difficulties are—First, the occurrence of scarlatiniform and measly rashes; second, the

varied forms of the eruption in the hemorrhagic varieties of the disease; third, the want of clear views on the subject of chicken-pox; and, fourth, the practice of vaccination, which greatly modifies the disease. Small-pox, commencing with fever, headache, and pains in the back, followed by an eruption of papules on the forehead, face, and wrists on the third day of illness, is like nothing else, and is consequently unmistakable; but small-pox does not always commence in this way. It often commences with eruptions, which are indistinguishable from those of scarlet fever and measles, and these cause no little difficulty in making an early diagnosis. They need not, however, give rise to any real difficulty if all the symptoms be considered. Usually the difficulty of diagnosis arises from attaching too much importance to the eruption. Even in small-pox the eruption alone should not be trusted, saving and excepting its well-marked forms, but the eruption in connection with the history of the case. For instance, a papular eruption which had remained unchanged for more than three days would not be small-pox, for if it had been the eruption of small-pox either the papules would have changed into vesicles, or if they had been the result of a modified small-pox they would have been disappearing by desiccation. The important factor, then, in the diagnosis of small-pox is the element of time. When did the eruption come out, *i.e.*, at what period of illness? How long has it been out, and what are its characters at the time of examination? are the questions to be settled in the diagnosis of small-pox. Thus, on the third day of the illness the eruption is papular; from the fifth to the eighth it is vesicular; from the eighth to the eleventh it is pustular; and between the eleventh and fourteenth the pustules burst, discharge their contents, and form scabs. I am now speaking of the normal forms of small-pox, leaving for further consideration the diagnosis of the hemorrhagic forms.

The scarlatiniform and measly eruptions should not present much difficulty if we avoid concluding that a scarlet eruption constitutes scarlet fever or a measly eruption measles. It is by forming a diagnosis in this way from one symptom that difficulty has arisen, and that some have concluded that small-pox and measles, small-pox and scarlet fever, have co-existed. This may be, but I have not seen it, and a rigid adherence to the method would sometimes justify the conclusion that a patient had small-pox in the head and face, scarlet fever in the arms, and measles in the legs. In fact, saving and excepting well marked small-pox eruptions, few symptoms taken by themselves are so deceptive, but, taken along with the history of the case and the other symptoms, they are of great value. Thus, if a person complain of sore throat and vomiting, and there be fever followed in the course of twenty-four hours by a scarlet eruption, that is probably scarlet fever; but if on the third day from the commencement of these symptoms an eruption of papules



appear, the disease is almost certainly small-pox, and the scarlet eruption one of the initial eruptions which not unfrequently precede the usual eruption of small-pox. If, on the other hand, no papular eruption appear, but the scarlet rash become dark and purpuric, and blue black spots appear along with effusions of blood into the conjunctivæ, which form a ring round the cornea, that is small-pox, although there may not be any papular eruption. It is one of the hemorrhagic forms of the disease, and is distinguished from scarlet fever by the hemorrhages into the conjunctivæ, the purpuric and blue black spots, and hemorrhage from the mucous membranes.

These hemorrhagic forms of small-pox are of all varieties. To a great extent they pass unrecognised as cases of purpura hemorrhagica or scarlet fever, typhus, or measles, owing to the presence of purpuric, scarlet, and measly eruptions. They may be classified as follows:—(1) *Variola hemorrhagica pustulosa*. (2) *Variola hemorrhagica vesiculosa*. (3) *Variola hemorrhagica papulosa*. (4) *Variola nigra*.

The first needs no description. The disease is confluent and unmistakable, the hemorrhage being rather an incident than an essential feature. The second is equally unmistakable, but the hemorrhage is an essential feature of the disease, and it is owing to its hemorrhagic character that the patient will die. The characteristic of the hemorrhage is that, as a rule, it is not into the vesicles or pustules, although this occasionally happens, but into the skin, beneath and surrounding them. There is also almost invariably more or less hemorrhage from the mucous membranes. Hemorrhage into the skin beneath the vesicles should not, however, be confounded with hemorrhage into the pustules along with purpura, and vibices on the legs during convalescence, incidents of no practical importance. *Variola hemorrhagica papulosa* is characterised by scarlet and purpuric eruptions, along with a few hard papules variously situated, more often on the hands and feet than on the head and face. There are almost invariably clotted conjunctivæ and bruise-like patches on various parts of the body. *Variola nigra* is like the former except that in this, the purest of the hemorrhagic forms, there are no papules. In these two last forms the purpuric spots are larger than the purpuric spots met with in the other fevers, such as typhus. They are of a blue-black colour, like the spots produced by dipping a pen in ink and then throwing the ink on blotting paper.

Small-pox is occasionally mistaken for typhus fever, but this may be avoided by a consideration of the history, because in the hemorrhagic forms of small-pox, which are the only forms of the disease with which typhus could be confounded, the hemorrhages occur during the first week, within which the patients die, whereas, in typhus, the spots which might simulate hemorrhagic small-pox

do not appear until about the middle of the second week. Moreover, in hemorrhagic small-pox there is always hemorrhage from one or all of the mucous membranes and hemorrhage into the conjunctivæ. Now, in typhus, hemorrhage into the conjunctivæ does not occur, although these are injected, and hemorrhage from the mucous membranes is extremely rare. Briefly, purpura, bruise-like patches, black spots, and "clotted conjunctivæ," appearing from the third to the fifth day, although there may not be a single papule, constitute *variola nigra*, not typhus.

Chicken-pox is liable to be mistaken for small-pox, but "chicken-pox is characterised by the rapidity with which it runs through its stages; modified small-pox, on the contrary, is characterised by an interruption in the course of the disease at one or other of three points—the papular, the vesicular, or the pustular. The chicken-pox eruption attains complete development by the end of the third day; in modified small-pox, should the eruption attain complete development, this will not occur before the ninth day, however much the disease may be modified. In modified small-pox the premonitory symptoms are usually well marked, often quite as severe as in the natural disease, and these last forty-eight hours, after which there is an eruption of small hard papules on the forehead, face, and wrists, followed by a fall of temperature. In chicken-pox the premonitories are most often wanting, and when present are slightly marked, and the eruption is followed by a rise in the temperature. It appears, moreover, upon any part of the body indiscriminately, and less frequently on the face than on other parts; and within a few hours—at the most within twenty-four—it has become vesicular, whereas in modified small-pox the vesicular stage is only reached forty-eight hours after the appearance of eruption. The vesicles of chicken-pox are globular or ovoid in form, without any central depression, glistening or translucent in appearance, and unicellular in structure. They collapse on pricking, and attain their maximum development in from twelve to eighteen hours. Modified and natural small-pox vesicles are flat and circular in form, always depressed in the centre, and sometimes umbilicated." (*Quain's Dic. Med.*)

Measles in the early stage is so like some kinds of small-pox that, up to the time of Sydenham, who was the first to separate these two diseases, they were always described together; but in cases of small-pox so severe as to simulate measles, on passing the hand over the face the feeling is that of furrowed roughness like that felt on passing the hand over a piece of corduroy, whereas in raised confluent measles the sensation is like that produced by passing the hand over a piece of velvet. Moreover, the eruption of measles when well out does not form distinct papules. Glanders accompanied by a pustular eruption has been mistaken for small-pox; but in glanders the disease commences in the mucous mem-



brane of the nose and the respiratory passages, and gives rise as its first symptom to a discharge from the nostrils. In small-pox there is no such thing. Acne has been mistaken for small-pox, but in acne there are no constitutional symptoms, and with rare exceptions no form of small-pox would be wanting in these, the constitutional symptoms being often severe even in the modified cases. Eczema occasionally closely resembles small-pox at its beginning, but in this disease the eruption is the first symptom, and constitutional symptoms only arise in the case of the extensive diffusion of the disease. In small-pox, the constitutional symptoms appear first and the eruption afterwards. But that which gives rise to the greatest difficulty in the diagnosis of small-pox is the practice of vaccination which, whilst not always protecting absolutely from the disease, usually more or less modifies it. The modification is of all degrees. Sometimes there are only the initial symptoms; at other times the initial symptoms with two or three papules. In such cases, obviously, a diagnosis can only be guessed at. Usually small-pox is mild in proportion to the excellence of the vaccination, and the proximity of its performance; but with the lapse of time there is a distinct loss of the original protection, and a growing susceptibility to contract small-pox in its unmodified forms, until a time comes when the protection originally given by primary vaccination is wholly lost, and a primarily well-vaccinated person dies of pure hemorrhagic small-pox as if he had never been vaccinated at all. To sum up the most important of these straggling observations, dark red rashes with blue black spots point to small-pox, not to scarlet-fever. Clotted conjunctivæ (when not of course the result of violence) indicate small-pox. Black eyes, bruise-like patches, and purpuric spots point to small-pox, not to typhus. Vomiting of blood with purpuric spots point to small-pox, although the eruption proper in all these cases may be entirely wanting. Moreover in these pure hemorrhagic forms the mind is almost invariably perfectly clear. There is no delirium. At one moment the patient may be talking coherently and even cheerfully, in the next he may have ceased to exist.—*Medical Times and Gazette*, April 4, 1885, p. 441.

#### 80.—ON THE TREATMENT OF RINGWORM.

By J. F. PAYNE, M.D., F.R.C.P., Assistant-Physician to St. Thomas's Hospital, and to the Hospital for Diseases of the Skin, Blackfriars.

The remedial substances employed are nearly all what we call parasiticide; but, in fact, most of them have been employed empirically for centuries. Before the existence of parasitic fungi was dreamt of, Bateman tells us that the ancients used sulphur, *atramentum sutorum* or blacking (that is, sulphate of iron), tar, soap, resin, vinegar, and other substances still in use. In the last century,

tar and sulphur were generally used. The St. Thomas's Hospital Pharmacopœia in 1741 contained an ointment used for "scald-head," composed of tar-ointment and train-oil in equal parts. The St. Bartholomew's Pharmacopœia in 1739 has an ointment, specially intended for tinea, and composed of tar, sulphur, and wax, "to be anointed once a day, the head being covered with a hog's bladder." In fact, the remedies of ancient and modern times are very similar, and may for the most part be arranged in the following classes:—1, metallic salts, especially those of mercury, but also of iron and copper; 2, sulphur, with which may be placed the more modern sulphurous acid; 3, aromatic and resinous substances, such as tar, oil of cade, creasote, and carbolic acid, and the compound produced by the action of iodine on tar, called Coster's paint; with these may be placed the modern remedy, chrysophanic acid or chrysarobin: 4, strong irritants, vesicants, or stimulants, such as strong acetic acid, cantharides, and croton-oil. The chief novelties in modern times are the introduction of certain chemical remedies, as borax and boracic acid, carbolic acid, and others, and also the use of mercury and copper salts in new forms. These remedies are dissolved in, or mixed with, certain materials which may be called "vehicles." These are water, glycerine, alcohol, chloroform or ether, fatty substances, and vaseline.

Vaseline, paraffin, and similar heavy hydrocarbons, have been much used lately as a substitute for lard in making ointments; they have the advantage of being unalterable, but have little penetrating power. Generally speaking, they possess no advantage over lard in the treatment of ringworm.

I will now give the formulæ for the ointments I am most in the habit of using in the treatment of ringworm, but do not claim for these any special efficacy. The same result may be attained by the use of a vast variety of similar mixtures containing the parasiticide substances above mentioned, if properly applied. In fact, we may say of all systems of treatment, that the success depends more upon who applies the remedies than upon who prescribes them. Among mercurial substances, we use an ointment containing nitrate of mercury and creasote:  $\mathcal{R}$  Ung. hyd. nit.  $\mathfrak{Z}$  i; creasoti  $\mathfrak{m}$  x; adipem ad  $\mathfrak{Z}$  i.  $\mathcal{M}$ . Another, containing white precipitate and sulphur— $\mathcal{R}$  Ung. hyd. amm.  $\mathfrak{Z}$  ii; sulphuris gr. xv; adipem ad  $\mathfrak{Z}$  i.  $\mathcal{M}$ . We also use oleate of mercury. This substance is sold in two strengths, one called five per cent. and the other ten per cent. These names correspond to the proportions—not of the salt, but of the oxide used in preparing it. The five per cent. oleate is an oily semi-fluid substance, the ten per cent. a rather firm ointment. Carbolic acid may be used in an ointment containing thirty or sixty grains to the ounce of either lard or vaseline. Boracic acid I use in the formula given by Mr. Martindale—paraffin (melting at  $135^{\circ}$  or  $140^{\circ}$ ) 5, vaseline 15, boracic acid 4 parts.



I have lately employed a remedy which, I believe, has not been used before, namely, eucalyptus-oil, in an ointment made according to Martindale's formula, paraffin two ounces, vaseline two ounces, oil of eucalyptus one ounce.

I have also employed it in an ointment made of lard, in the strength of one drachm to the ounce, and mixed with chloroform, as mentioned above. It is very useful in early cases, and I have seen already several cases cured by it; but it is not among the most powerful remedies.

I will now give you an outline of the course of treatment pursued first, in a slight or early case, and then in more severe cases. In an early case, after removing the hair, and washing with soft soap (the latter operation should at first be repeated every day), we keep the surface of the head moistened, during the day, from time to time with a lotion; for example, boracis gr. xv, glycerini ℥i, aquæ ℥vij, M.; or, hydrargyri perchloridi gr. i, glycerini ℥i, aquæ destillatæ ℥vij. M.; or else with glycerine of carbolic acid. At night, have one of the ointments above mentioned thoroughly rubbed in, and the head covered with a cap. This treatment, with lotion and ointment alternately, should be continued for two or three weeks, or longer, till the disease has definitely localised itself in particular patches on the scalp. After this, instead of lotions, paint the patches every three or four days with either a tincture of iodine or the remedy called "Coster's paint," continuing the ointment in the interval as before. By these means, a certain proportion of cases, perhaps one-half, or even two-thirds, will generally be cured in a few weeks, or at most a month or two. Should the case prove more obstinate, or should we have to treat a case where the disease has already existed for some time, we slightly modify the above treatment. In place of the painting with iodine, apply blistering-fluid occasionally, or use "Coster's paint" more frequently. Blisters are dangerous in infants, and should not generally be used in children under five years of age. In such a case, epilation should be very carefully and systematically carried out (taking care to warn the parents of the temporary baldness produced). If these means do not suffice, it will be well to change the ointment, and use either a strong preparation of carbolic acid or oleate of mercury. In the circumstances here considered, washing should only be carried out about twice a week.

Should all these measures fail, and the case of ringworm be protracted more than six months, or should we be called upon to treat an inveterate case, an entirely different method is to be recommended. The best plan here will be to apply oleate of mercury, in the five per cent. strength, by means of a sponge-mop over the whole of the head once a day, without removing that previously applied. The head should be covered with a flannel or linen cap, night and day, and should be washed once a

fortnight only, or once a week at most. The result of this treatment usually is, that the skin becomes somewhat inflamed; and there is, at all events, considerable seborrhœa, and the scalp becomes covered with scales. It is, in consequence, difficult to tell what progress the cure is making. Accordingly, after fourteen days of such treatment, omit the oleate, wash the head thoroughly, and use a milder application, such as boracic acid ointment, till the skin is clean. We are then in a position to judge how far the disease is eradicated. If broken hairs and stumps still remain, we revert to the oleate treatment, and continue it for another fortnightly period; then clean off the scales as before. A certain amount of suppuration is no reason for stopping the oleate application; but the least soreness of the gums will make us, of course, discontinue it. I must, however, say that I have generally found some constitutional effect produced in those instances in which the oleate has effected a radical cure of the local disease. Cases which have lasted for years may often, by this means, be cured in as many months.

If even this treatment fail, there is one yet more severe, namely, the production of artificial suppuration, or kerion. I will not describe this at length, but refer to Dr. Alder Smith's valuable little book on *Ringworm*. It is, I think, efficacious; but is very painful, and somewhat dangerous. Hence it is, I think, less used than it was a few years ago.

With regard to the constitutional treatment of ringworm, I have already said that I think the state of health has little to do with the persistence of the disease. Nevertheless, a change of air, removing the patient from the influences surrounding him at home, often appears to be of great benefit. I should always recommend that, in a very tedious case, the room in which the child sleeps, and the bedding, should be disinfected as carefully as in the case of any other infectious disease. These precautions have in some cases appeared to arrest the disease, which was being treated in vain by local remedies.

With regard to ringworm of the skin (*tinea circinata*), its cure is conducted on the same principles as that of *tinea tonsurans*, but is much easier. The patches should be well painted with tincture of iodine, which is sometimes sufficient. If it should not be, wash thoroughly with soft-soap, and apply one of the parasiticide ointments above mentioned. Most cases will be cured in a fortnight.

Ringworm of the beard (parasitic sycosis) has become rather more common in London of late years than it used to be. It is treated in the same way as other forms of ringworm; but the amount of inflammation is sometimes so great that cooling remedies, especially lead-lotion, have to be used at first. Poultices are better avoided. In the next place, painting with iodine (if the patient do not object) is very useful, both to counteract the deep-



lying inflammation and to kill the fungus. In order to effect a cure, carefully eradicate the diseased hairs, and rub in one of the parasiticide ointments. The cure is sometimes tedious, but less so than in a really bad case of ringworm of the scalp.—*British Medical Journal*, May 23, 1885, p. 1031.

### 81.—ON THE TREATMENT OF LUPUS.

By WALTER G. SMITH, M.D., Physician to Sir Patrick Dun's Hospital, Dublin.

The two prime objects in the treatment of lupus are (1) to check the development and extension of the morbid virus; (2) to destroy the existing foci of disease. Constitutional treatment can bear upon the first object only; local treatment has a relation to both objects. In regard to constitutional treatment, I will only say that if the tuberculous doctrine of lupus be accepted it lends emphasis to the recommendations of those who advocate the internal use of anti-scorfulous remedies, and especially cod-liver oil, iodine, iodoform, and the adoption of all measures calculated to fortify the system, while, on the other hand, it adds force to those who teach that enfeebling remedies, such as mercury, should be abstained from.

On the whole, in reference to the internal medication of lupus, we cannot maintain that as yet we know of any specific against the lupus (*i.e.*, tuberculous) virus; and perhaps the most that can be done in this way is by strengthening the constitution to increase the capacity for resistance of the body against the spread of the germs of the disease.

It will be generally admitted that local treatment is the more important, and the principles to bear in mind are these:—(a) To remove useless and morbid tissue. (b) To effect in those parts which are still firm and comparatively healthy the absorption of the lupus infiltration. (c) To vigorously suppress any relapse at once (Volkmann).

Locally, in spite of the easy accessibility of the lupus foci, our therapeutical efforts are not always rewarded by success. As to erythematous lupus, let us hear what MM. Besnier and Doyon say:—"Nothing is more deceptive than the therapeutics of lupus erythematosus, even allowing for recent incontestable advances. Spontaneous cures, speedy success with the most simple and the most diverse methods, frequent relapses, often unsuccessful even when recourse is had to the most active measures—this is what the practitioner has to expect in the treatment of lupus erythematosus."

The curette, or sharp spoon (Volkmann, 1870), or method of erosion is an excellent means of cure. This method of treatment is best followed up by immediate cauterisation of the raw surface, in the hope of destroying the outlying germs of the disease.

I have had some experience of local methods of treatment, each of which, perhaps, has its own proper sphere, but, speaking broadly, I prefer the method by scraping, or erosion. And a comparison of the practice and results of the treatment of lupus at the present time with the results expected or attained twenty or even ten years ago will show, beyond question, that if lupus cannot as yet be expunged from the list of *opprobria medicinæ*, still the disease has been deprived of some of its repulsiveness, its ravages have been more effectually checked, and its prognosis has been materially brightened.

I shall not now enter into details of the actual procedure in either case, but will content myself, in conclusion, with summarily specifying the individual features of these two methods.

*Erosion, or scraping*—1. Differentiates sound from diseased tissue, for healthy skin will not give way to the spoon. 2. It is rapid of execution. 3. It is, as a rule, not followed by much after-pain. 4. The scraped surface heals wonderfully quickly. 5. It leaves a level and tolerably slightly cicatrix.

*Scarification*—1. Is applicable to some situations, and, in some cases, where erosion is unsuitable or inadvisable. 2. It is less painful, and, to some persons, a less repellent operation. 3. There is a minimal loss of substance. 4. It is especially adapted for diffuse non-ulcerating infiltrations. 5. The scar left is scarcely distinguishable from the healthy skin, and it is said not to be liable to cheloid growths, which sometimes develop upon the scars left by scraping operations.

Hence, in lupus of the face, where æsthetic considerations have especial force, linear scarification deserves a full trial in the promise it affords of effecting the desired object with the least amount of consequent deformity.—*Dublin Journal of Medical Science*, Feb. 1885, p. 97.

## 82.—ON THE TREATMENT OF ONYCHIA.

By CHARLES W. DULLES, M.D., Surgeon to the Pennsylvania University Hospital.

Practice in the out-patient departments of two hospitals has brought to my notice a number of cases of this stubborn disorder, and has led to my adopting a method of treatment which is so satisfactory that I think it worth while to call attention to it. It is not new in principle, but I think the details of it are not to be certainly gathered from the suggestions which are to be found in some of the works on surgery.

The plan I refer to consists in washing the usually stinking finger or toe-end with a weak solution of permanganate of potassium, trimming the nail back to where it is attached to the matrix, dusting on a *fine powder* of iodoform, and covering the whole in



with turns of a narrow strip (not more than a quarter of an inch wide) of adhesive plaster. The plaster I prefer is the rubber adhesive plaster, which fits better, because it is softer than ordinary adhesive plaster, and is much easier to apply, because it requires neither heat nor moisture to fix it.

By this means, I have succeeded, so far in every instance, in getting rid of the pain, which is often excruciating; of the odour, which is almost intolerable; of the evidences of high inflammation, which are always present; and in securing a speedy recovery of what by other methods has proved an exceedingly intractable disorder.

The secret of success, I believe, lies in attention to the details of this method. The finger or toe-end must be thoroughly cleansed with the permanganate solution; the nail must be gently, but thoroughly, trimmed back till all of it that is dead is removed; the iodoform must be *finely powdered*; the adhesive strip must be smoothly applied, and in such a way as to cover the whole of the end of the finger or toe.

This latter step is accomplished by taking the thin strip of plaster, and applying it first on the proximal side of the nearest interphalangeal joint, *obliquely to the long axis of the finger or toe*, and carrying it up toward the end and round until it begins to return; by continuing these turns, the strip, with a little guidance, will gradually make first a latticed covering, and then cover up the interstices of this lattice, so as to make a complete cap. If necessary, a few strips may be applied directly over the end of the finger or toe, so as to fill up any gaps which would require too much plaster to be covered-in in the, so to speak, natural way.

Such a dressing should be removed as soon as the pain or the stinking is renewed. But usually it will give immediate and entire relief from both; in which case, I think, it is advisable to remove it at any rate in two or three days, to see how the part is getting along. The second dressing, of the same kind, will often be applied to a healthy granulating surface, and form a dry, clean scab, under which the member will heal up perfectly.

I have experimented in cases which were doing well under this treatment, and have found that the adhesive plaster part of it is indispensable. As soon as it was left off the cases did badly.

Toes, I have found, are harder to cure than fingers, for obvious reasons. But in the case of both fingers and toes, I have seen children cease their complaints, resume their plays, begin to get good sleep at night, and recover the appearances of health which pain had robbed them of.

Finally, I would say that I think it important in these cases to see that the patient's bowels are once well cleared out, and then kept in good order, and to give a ferruginous tonic.

This may seem an insignificant kind of surgery, but it is not

insignificant to the little sufferers, nor to their parents, nor, my observation would lead me to believe, to the medical men under whose care the patients come.—*Pennsylvania Medical News*, March 21, 1885, p. 320.

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### 83.—BOROGLYCERIDE IN SKIN AND OTHER DISEASES.

By S. MAC. SMITH, M.D., Resident Physician at the Germantown Hospital, Philadelphia.

In the wards of the Germantown Hospital and Dispensary this comparatively recent compound, "boroglyceride," has been employed with such decided success and encouragement that, perhaps, to state some observations on the use of same will be of interest to the profession.

Boroglyceride is a marked hæmostatic, antiseptic, deodorant, and germicide, and prevents and arrests fermentation and putrefactive changes.

When applied to wounds, mucous membranes, etc., there is usually experienced a smarting sensation, which quickly subsides; it frequently renders a previously painful wound absolutely painless.

If, after minor amputations, the flaps be turned back, a 25 per cent. solution applied freely, and the edges of the wound coaptated nicely, capillary hemorrhage will be found to have been arrested and granulations promoted, but usually union by first intention is seen.

Chronic ulcers, which have resisted the ordinary mode of treatment, have readily yielded to applications of a 50 per cent. solution of boroglyceride, being first washed with alcohol.

Have had several chronic suppurating buboes, which, the patient claimed, resisted all manner of treatment for about two years, but which promptly yielded to boroglyceride 50 per cent. solution and alcohol, used in the manner stated above.

In cases of gonorrhœa and gleet, this agent, with carbolic acid, used as an injection, will be found quite efficient and reliable. Out of ten cases treated recently, eight are pronounced cured, and the remaining two marked progress; also, where the urethra is subjected to irritation from passing a bougie, sound, etc., a weak solution used as an injection will be beneficial to allay the inflammation thus produced.

Gynecologists will also find this agent of much value in metritis, endometritis, vaginitis, leucorrhœa, etc. Boroglyceride, with carbolic acid, will render valuable service, and frequently accomplish the desired result with greater rapidity than the ordinary agents. A tampon can be left in the vagina, "first being moistened with boroglyceride" for six or eight days without becoming offensive.

Most inflammatory diseases of the skin, especially those of an itching or burning nature, are greatly benefited by this agent.



In cases of inflammation of the throat, as tonsillitis, pharyngitis, etc., a 50 per cent. solution, diluted about one-half with water, and carbolic acid added, used as a gargle, has rendered most satisfactory results. Tannic acid may be added with advantage; great relief is also afforded in cases of acute coryza, by diluting a 50 per cent. solution one-half, and drawing it through the nares by a forced inspiration.

I have just been informed by Dr. Muller, surgeon to this hospital, that he has preserved perfectly pathological specimens for four years, and will probably remain as such for an indefinite time.

The ointment of boroglyceride, "unguentum boroglyceridi," appears especially adapted to, and efficacious in, the treatment of ocular diseases, more particularly, perhaps, on account of its convenient form, and being more suitable to add other ingredients. The following is the formula for making the ointment; R. Boroglyceride, 50 per cent. solution in glycerine ℥ij; vaseline ℥vi; ol. rosæ q. s. M. Heat the boroglyceride, and, while hot, add it slowly to the vaseline, stirring it constantly until thoroughly mixed.—*Philadelphia Medical News*, June 6, 1885, p. 628.

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#### VENEREAL AFFECTIONS.

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#### 84.—ON THE LIFE-HISTORY OF SYPHILIS.

By JONATHAN HUTCHINSON, F.R.S., Emeritus Professor of Surgery in the London Hospital College.

If you were to take on the point of a clean lancet a little of the blood of a syphilitic patient, or still better, of secretion or blood from a hard chancre not inflamed, and inoculate with it a healthy person, the following would probably be the course of events. For a few days after the puncture there would be a little redness and irritation around it, and then these would disappear, and all trace of the injury would be lost. At the end, however, of from four to five weeks the site of the puncture would begin to itch a little, and next to become red, and then there would form around it a little hard button. This button would with some persons not ulcerate, but in the majority, in the course of a fortnight, it would be inflamed and ulcerated more or less. At the end of from six weeks to two months from the date of inoculation it would be at its height, and the induration around it would be very characteristic. In some instances it might be such as to suggest that a little disc of cartilage had been inserted into the skin. The degree of hardness, and the tendency to inflammation, will vary somewhat with the part of the body inoculated. For instance, if the root of a finger nail be affected, there will almost always be much swelling and suppuration. Well characterised hard chancres may, however, be met with in almost all parts; in the genitals constantly, and in

exceptional instances on the lips, eyelids, tongue, fingers, or any part of the surface of the body. At the same time that the sore takes on induration, the lymphatic glands nearest to the sore enlarge. They do not swell much, but become very firm, and usually remain loose in the cellular tissue and not adherent to each other. Their hardness is sometimes such that the term "bullet bubo" seems appropriate, and they are often spoken of as amygdaloid or almond-like. They do not cause the patient much pain, and they very rarely suppurate. When the chancre is at its height and the bullet bubo well marked—say six weeks or two months after the contagion—the patient usually begins to feel a little unwell. He is feverish in the evening, has some headache, and often pains in his bones and joints. About this time also he usually begins to show some eruption on his skin, the abdomen or front of chest, or fronts of arms, being the parts first affected. The rash is most often at first simply congestion, a roseola or measles-like rash, but differing from measles in colour, being dark and dusky. After a week or so the roseola fades, and is followed by one of a variety, a papular, or pustular, or scaly form; a lichen, a psoriasis, or an acne. With the rash there is usually a sore throat, and this takes the form of symmetrical kidney-shaped ulcers on the tonsils with white edges. Syphilis in what is called its secondary or constitutional form is now thoroughly established. The virus has bred and multiplied first in the chancre, then in the lymphatic glands, and lastly in his blood. He is now saturated with it, his blood is contagious, and the secretion from any sore that he might have would be contagious. If, however, you were now to inoculate the same man again, whether from his own chancre or that of some other person, you would fail to produce any effect, just as if you were to vaccinate a person who had been successfully vaccinated a fortnight ago or who had small-pox on him. The whole system is in the possession of the virus, and it cannot breed it a second time.

In the description which I have given I have been presuming that all treatment has been avoided, for it happens that we know of a drug which has the most remarkable power of arresting the growth of the syphilitic virus at all stages. If this drug (mercury) be used early, the chancre will not become indurated, and if it be given after induration has set in, it will remove it, and will prevent the development of rash and sore throat. In many cases, perhaps in almost all, although it may be completely successful in preventing development of the virus, yet it does not seem, however long continued, to kill it, for if the mercury be left off the long delayed symptoms in the skin and throat soon make their appearance. They are, however, much milder than they would have been had mercury not been given. We give to mercury the well earned name of a "specific," because it appears to possess the special and almost invariable power of acting as an antidote to the virus of syphilis.



Let me now complete the picture of the course of syphilis, still on the understanding that we avoid the employment of the specific antidote. If, then, the chancre and the eruption, &c., be left to themselves, they will last together for a certain time and then disappear. The chancre which was the first to come will be the first to go, and at the end of three or four months probably all traces of induration will have vanished. The rash may last much longer, and may be attended by falling of hair, inflammation of the iris, and sores in the mouth, with in a few cases much febrile disturbance and loss of flesh. At the end of six months from the beginning, however, many patients will have got rid of their symptoms, and by the end of a year a large majority. The riddance, however, is in many instances not complete; at times a fresh attack occurs, but more usually there is no renewal of the general rash, but rather what we may call remainders, that is, slight local symptoms, sore tongue, peeling patches in the palms of the hands, and the like. That the poison remains potent for fresh contagion for a long time is well proved, but at the same time it seems likely that after the elapse of eighteen months or two years it usually ceases to be so. During the eighteen months, and in some persons longer, the blood was inoculable, and if the patient had married and had a child, his child would in all probability have taken over the germs from him and developed the syphilitic fever with skin-rash, &c., about a month after birth. Even after the blood has ceased to be contagious, and all danger of transmission is at an end, the patient is himself not wholly safe. His tissues have all been fed for many months by blood which was loaded with the virus; and there results a risk that they may at some future period, after irregular and very long periods, and perhaps in connection with slight injuries, inflame in a peculiar manner, and produce growths or ulcers which are easily recognised as only possible in one who has had syphilis.—*Medical Times, March 21, p. 374.*

#### 85.—INFECTING AND NON-INFECTING VENEREAL SORES.

By JONATHAN HUTCHINSON, F.R.S., &c., London.

If we were to abandon mercury we should probably soon realise that syphilis is far more regular in its stages and general development than we have supposed it. The more clearly and constantly you keep in mind the hypothesis (almost certainly true) that all its early symptoms depend upon the action of a particulate and specific virus, the more easily I feel sure you will find it to correctly interpret the phenomena. Especially is this hypothesis necessary to help us in reference to the question which I shall next discuss. I refer to the relation of the false chancre to the infecting one.

We know that some sores which are caused by contagion in sex—

ual intercourse do not lead to syphilis, and we know certain facts about these which in a general way, and with the exercise of great caution, enable us to distinguish them from the infecting chancre. These false ones appear much earlier after exposure than do the others; they are attended by more inflammation and more discharge; they are often multiple, or if not so at first they may become multiple. They seldom acquire any definite degree of hardness at their base, and they are attended by enlargement of the lymphatic glands, which is acutely inflammatory, glues all the glands together, and tends to abscess. These non-indurated inflamed ulcers may vary much in aspect. Some of them are little more than abrasions, and soon get well; whilst others are large, abruptly margined, and very difficult to cure. As a rule they are easily treated, and the application of powdered iodoform will quickly heal nine out of ten. The secretion from these sores, if inoculated on the patient's skin, will produce a sore exactly like the original one, and this may be done over and over again, thus proving that the system is not infected. Although as a rule nothing constitutional follows these sores, yet every now and then it happens even to the most careful observers that a sore, which was thought to be non-indurated and non-infecting, is followed by syphilis. Nothing is more common than for a sore which began a few days after exposure, and which either healed quickly or remained open for two or three weeks, to be followed at the end of five weeks by induration, and later on by constitutional syphilis. Attempts have been made to count the cases of soft and hard sores, and to estimate their relative frequency. There are, however, great fallacies in such an undertaking: so much depends upon the powers of diagnosis of the observer, and upon his carefulness to alter his record of diagnosis should subsequent events prove it incorrect. More than half the sores which are reckoned soft at first become hard subsequently. Making allowance for these sources of error, we may believe that hard or infecting sores are far more common than the others.

Some experimenters have alleged that they could produce soft sores on the genitals by inoculation with pus taken from some non-venereal sources—a boil, for instance. I do not doubt that local ulcers may be so produced, but I much doubt whether such ulcers would ever present the peculiar features, and run the very peculiar course, which some “soft chancres” do. Common balanitis or common herpes, although they may both cause ulceration on the glans or prepuce, are neither of them ever followed by anything similar to the very special type of sore to which I refer. Putting aside, then, a certain proportion of soft sores, as due to common and non-specific causes, to the contagion of non-specific pus, I hold still that there is a residuum of peculiar sores which are unquestionably venereal and are in some way related to syphilis.



What is their relationship? The theory that they depend upon another and wholly distinct virus, which has existed for ages, side by side with that of syphilis, but having no relationship with it, seems to me to be going a long way for the explanation of a simple fact. It is the theory of those who name themselves dualists. They do not hold that there are two varieties of syphilis, as you might suppose from the designation, but simply that the non-indurated sores have no connection whatever with syphilis. If you think that the soft are or ever were in anyway caused by the secretions of syphilitic lesions, whether secondary or tertiary, then you are a unicist. I avow myself to be in the latter camp. I hold that non-indurated sores are in all probability due to the contagion of pus, secreted by syphilitic sores, but not containing the virus. Such pus would act simply as a local irritant. Suppose a man who has recently had syphilis to expose himself to risk. He may easily contract a sore which, owing to his state of protection, will never indurate, and in the secretions of which the true virus may wholly die. Or suppose a prostitute who has had syphilis to present late tertiary lesions on the genitals, she may easily cause sores in others which, being produced by pus only, do not contain the virus, and are not destined either to indurate or to infect. Such is my theory of the origin of soft sores, and I submit that it is quite sufficient to explain the facts. Unquestionably all inflammatory secretions are in some degree contagious, and all, when applied to a tissue similar to that in which they had their origin, tend to produce inflammation of the same type as that from which they had their birth. There is nothing, then, to be wondered at in the fact that soft sores keep true or fairly true to their type.—*Medical Times*, March 28, p. 406.

#### 86.—ON GONORRHOÆAL RHEUMATISM IN INFANTS, THE RESULT OF PURULENT OPHTHALMIA.

By R. CLEMENT LUCAS, B.S., Assistant-Surgeon to Guy's Hospital.

In February last I published a short note of a case in which two joints of an infant were inflamed, in association with purulent ophthalmia. This case was thus put forth in an incomplete form, because I believe that the relation of purulent ophthalmia and joint-disease as cause and effect is an entirely new observation, and I wished at once to court the criticism of the profession upon the case. The course and termination I will now give in detail.

M. B——, aged 34, first brought her infant son, aged eighteen days, to see me, on Feb. 12, 1885. She had been twice married. By her first marriage she had given birth to five children, all of whom were living and healthy. None of these had suffered from rash or snuffles. She married a second time five years ago, and the infant brought was the second child of this second marriage. The elder child of the second marriage was now  $2\frac{1}{2}$  years of age ;

she had suffered from no syphilitic symptom. A week later she was brought for my inspection, and appeared quite healthy. The mother had never had a miscarriage, rash, sore-throat, or any symptom attributable to syphilitic infection.

About a fortnight or three weeks before her labour, she noticed that she was suffering from a thick purulent discharge, and accused her husband of having infected her. He at first made one of the usual excuses, but afterwards, on her discovering that he was attending at the hospital for a discharge from the urethra, admitted his culpability. A day or two after birth, the child was noticed to have a purulent discharge from the eyes, and was treated from the hospital with alum lotion.

Of the inoculation of gonorrhœal virus, as the cause of the purulent ophthalmia, there cannot, therefore, be a shadow of doubt; for all three patients, father, mother, and infant, who had been inoculated in succession, were under hospital treatment at the same time.

About a fortnight after birth, whilst the discharge from the conjunctiva of the infant was still profuse, the mother noticed that its left knee was enlarged and painful, and that the child cried when it was moved. A little later the left hand was observed to drop, and the left wrist was noticed to be painful on movement.

The case was referred to me by my colleague, Dr. Horrocks, on account of the condition of the knee. On examination, the knee was found greatly enlarged. It contained a considerable quantity of fluid, so that the patella floated, and was sufficiently red to indicate a possible tendency towards suppuration. The swelling was not simply a distension of the synovial membrane, but the enlargement was equally distributed above and below, so that it could not be traced to inflammation of either epiphysis. The mother said the knee had gradually increased in size since she first noticed it painful. The wrist was enlarged, but not red. It creaked on movement, and this caused pain, so that the child cried. The only treatment employed was the application of dilute lead lotion over the inflamed joints.

Feb. 19. The wrist was more swollen, and somewhat red. The knee was less inflamed, but not diminished in size. The purulent ophthalmia was still profuse. A stronger lotion of alum was now ordered (eight grains to the ounce of water) to be dropped into the eyes every half hour after bathing away the discharge.

Feb. 26. The effect of the increased strength of the lotion upon the eyes had been very marked. The purulent discharge had almost entirely stopped. The wrist was much better, and was but very slightly swollen. The knee also was better, but still large, and somewhat hot.

March 5. The eyes were now well, and the corneæ were quite clear. The wrist had recovered, and could be moved without pain.



The knee was very much less inflamed, and less swollen. The redness of the surface had disappeared.

March 25. The inflammation of the knee had quite subsided, and the joint could be moved without pain.

April 9. The child was again brought up for inspection. It had greatly improved in health and strength. The joints were well. It showed no sign of inherited syphilis.

It will be observed that, whilst the discharge remained profuse, during the following week, the wrist-inflammation increased, and the condition of the knee showed little or no improvement. A stronger lotion, frequently applied to the eyes, at once diminished the discharge; and, relatively to its decrease, the joint-affection began to mend. This accords with my experience of gonorrhœal rheumatism having its origin in the urethra, though it scarcely agrees with the teaching of some authorities, who speak of the joint-affection decreasing when the discharge becomes more profuse, and increasing with a diminution of the secretion. This doctrine I believe to be altogether erroneous, and conducive to incorrect and ineffectual treatment. It is true that gonorrhœal rheumatism often comes on in the later stages of the gonorrhœa, when there may be little more than a gleet present; but the surgeon should always direct his efforts first to the cure of the discharge, and the joint-affection will then give little trouble. I have known both discharge and rheumatism to extend over a period of nine months, owing to the depressing influence of large doses of alkalies, and both to disappear in the course of two or three weeks, when an effectual remedy was administered for the cure of the original malady.

The treatment which was adopted for the relief of the joint-affection in the case of the infant was purely local, and of the simplest kind. Neither fixation of the joints nor pressure was employed; but a lotion of dilute subacetate of lead was merely applied to the surface, to assist in lowering the inflammation. The resolution and recovery cannot, I think, be attributed largely to the application over the joints, but must be traceable rather to the removal of the original source of infection, and to the general improvement in health.

Gonorrhœal rheumatism is a disease concerning which, I believe, some very erroneous opinions exist; and I wish to make some remarks on the disease as it is more commonly met with in young adults. It is undoubtedly frequently overlooked; and the patients, wishing to preserve their reputations for morality, often do their best to deceive their medical attendants. I remember, when I was clinical clerk, that a young man was admitted at the beginning of the session into the clinical ward, with subacute rheumatism. He remained in till after Christmas, being, in succession, under the care of three different physicians, who treated him according to the most

approved plans for ordinary rheumatism. At last, the diagnosis was made by old Nurse Jackson, who said he was a "nasty dirty fellow," and that she had "changed his sheets often enough, and would stand it no longer." About two months ago, two young men attended on the same day among my out-patients, each with effusion into the left knee-joint. In neither was there a history of injury. My suspicions were aroused by this fact, their healthy appearance, and their ages (between 17 and 20); and I inquired as to gonorrhœa. One admitted a discharge, but the other stoutly denied having anything of the kind. Still unsatisfied, I made the man pull down his trousers, and, squeezing his urethra; demonstrated, to his great discomfort, before all the students, the existence of a purulent discharge.

These are instances of the subacute form, attacking in the two latter cases only one joint. The diagnosis is made by the discovery of a purulent discharge from the urethra; the absence of sprain or injury; few joints attacked; little pain, except on movement; and a good deal of synovial effusion. This is the most common form, and the one most generally recognised. It occurs in females, as well as in males. A few years ago, when Patience was still a venereal ward, a woman was there placed under my care with gonorrhœa, and synovitis of both knees, accompanied by the most extensive effusion. There was little pain, and no constitutional disturbance, but it was many weeks before I was able to cure this woman of her gonorrhœa and gonorrhœal synovitis. I have seen several other cases in young women, and I believe there is no justification for the remark made by the writer in the last edition of the *System of Surgery*, edited by Mr. Holmes, that "gonorrhœal rheumatism is rarely, if ever, met with in females." Rather, I would suggest, medical men are a little too charitable, and a little too apt to trust to the histories that young servants give them in explanation of a particular synovitis. The difficulties in the way of uncloaking a falsehood are very great, and it is obviously impossible to force an examination, as one frequently does in the case of a male. Hence, many cases of gonorrhœal synovitis are overlooked, and regarded as of rheumatic origin.

There is another form of gonorrhœal rheumatism which takes the form of an acute arthritis, accompanied by high fever, acute pain, redness and swelling—symptoms closely resembling suppurating arthritis—but which rarely suppurates. We are indebted to Mr. Davies-Colley for drawing attention to this form. I remember when he first brought his observations before the Hunterian Society, on April 10th, 1878. He was careful then to distinguish from gonorrhœal rheumatism this which he believed to be a peculiar arthritis occurring in women; but it was the opinion of many who heard his paper that he was describing only a peculiar



form of gonorrhœal rheumatism. My own experience at that time rested chiefly upon a remarkable case I was asked to see, in 1877, by a medical colleague. It was that of a married woman who was seized with an acute arthritis of the left knee, accompanied with very high temperature, great pain, redness, and swelling. The case had been seen by Mr. Callender and Mr. Maunder (both since dead), and they had agreed that there was pus in the joint, and that incisions should be made. My colleague differed from these distinguished surgeons, and took me to see the case. I fixed the limb rigidly on a McIntyre's splint, and applied an ice-bag over the knee, under which treatment the inflammation gradually subsided, but a stiffened knee remained. Subsequent events which transpired left me in little doubt as to the origin of the arthritis. Mr. Davies-Colley's paper was afterwards published, June, 1878, in the *Obstetrical Journal*; but it was not till 1881 that he corrected his opinions by a paper in the *Guy's Hospital Reports*, wherein he gives a clear account of the acute form of this affection, and admits that it occurs in males as well as in females.

An instance of acute gonorrhœal inflammation attacking the ankle and foot was admitted into Samaritan Ward under my care, in July last year, as a case of erysipelas. A man, aged 21, who had contracted gonorrhœa two months previously, was seized, about a month before admission, whilst sitting quietly, with sudden pain in the right foot, which was followed by great heat and swelling. His medical man at first thought it was an attack of gout, and subsequently told him he had obstructed blood-vessels. There was much swelling and redness, with some œdema over the whole of the dorsum of the right foot. The swelling extended forward to the clefts of the toes. Acute pain was caused by pressing back the metatarsal bones, and his ankle-joint was fixed and swollen. No other joint was affected. His temperature was  $99^{\circ}$  on admission, and rose to  $100^{\circ}$  on the third day. He was cured of the discharge in about ten days, and left the hospital well, three weeks after admission.

I have now given instances of the two forms of gonorrhœal rheumatism, each occurring both in males and in females. It will be observed that, in the infantile case detailed, the inflammation of the knee resembled the acute arthritic variety, threatening to suppurate; but I would throw it out as a suggestion that it is highly probable that the milder variety may also be met with in connection with purulent ophthalmia, and, in this case, would be very liable to be overlooked. I make this suggestion, not merely from analogy, but because the inflammation of the wrist in my case never reached the height of the inflammation of the knee; and, therefore, the two forms may possibly be found in the same individual, or the type may be throughout of the milder kind.—*British Medical Journal*, July 11, 1885, p. 57.

AFFECTIONS OF THE EYE AND EAR.

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## 87.—ON THE USE AND ABUSE OF MYDRIATICS.

By CHARLES BELL TAYLOR, M.D., F.R.C.S.E., Hon. Surgeon to the Midland and Nottingham Eye Infirmary.

A short time ago a lady residing some distance from Nottingham asked my advice respecting an affection which she had described in a previous letter as a "slight cold in the eye"; she was at the time under the care of a surgeon of considerable repute, who evidently shared her impression as to the trivial nature of the attack, since he had prescribed nothing but counter-irritants and a slightly astringent lotion. I found on examination that the case was one of iritis, and suggested treatment accordingly; as my prescription, however, involved a dark room, bloodletting, and other *désagrémens*, the patient decided to return home, and placed herself under the care of an ophthalmic surgeon, who, failing to effect dilatation of the pupil, endeavoured to counteract the evil influence of adhesions by excising a considerable portion of the iris. The lady recovered, but sight is impaired, the eye is to a certain extent mutilated, she has undergone an operation which has caused her much anxiety, and has lost most valuable time, all of which she might have been spared by judicious treatment in the first instance, *and* the timely employment of atropine.

When slight attacks of iritis, mistaken for surface irritation, are occasionally attended with such untoward results in the persons of well-to-do patients, while under the care of eminent general practitioners, it is easy to see that such cases are likely to be common enough among those who constitute the ordinary *clientèle* of the ophthalmic surgeon, both in hospital and private practice; indeed, scarcely a week passes but I am called upon to prescribe for patients suffering from the effects of adhesions, which, so far as my experience goes, might have been easily prevented. The young lady you have just seen is a case in point, constrained to pass her days and nights in stitching. She was seized a fortnight ago while at work with a violent pain in her brow, accompanied with inflammation and lacrymation of the right eye. She was visited by her medical attendant, who prescribed blisters, anti-neuralgic remedies, and a lotion which, from the pain she says it occasioned, must have been of an irritating nature. When I first saw her, the eye was much injected, the cornea turbid, and the iris, naturally blue, had lost its tint and lustre; the pupil was adherent to the capsule of the lens, and in places you noticed that it was bulged outwards from the pressure of the imprisoned aqueous humour behind it. By tapping the chamber, thus setting free some exudative matter, the adoption of energetic antiphlogistic treatment, and the assiduous instillation of atropine, we have succeeded in effecting



dilatation of the pupil, and the patient is now in a fair way to recover; there remains, however, in spite of all that can be done, one tag of adhesion, which may prove a source of future trouble, and which might just as well have been prevented. In these two cases, as in the majority of those that come under our notice, only one eye is so far affected; but it not unfrequently happens that such patients do not apply to specialists or special institutions until both eyes are involved in the destructive process, the pupil being firmly plastered to the capsule of the lens, its area occupied by dense membrane, and the sight so damaged that the sufferer has to be led about.

J. R——, the young man on whom you saw me perform iridectomy in both eyes, was one of these. He lives 200 miles away, was certified as hopelessly blind by the parish surgeon, and only came under my notice through the exertions of a benevolent clergyman. Two other cases identical with this one have been recently operated on, and there is one more which I hope to benefit by the formation of an artificial pupil, making four cases of actual blindness, the result of iritis injudiciously treated, which have come under my notice during the last five months. Would it be well, in view of these deplorable cases, to lay down a law that atropine should be employed as a matter of routine practice in all cases of inflammatory affection of the eyeball, on the ground that it could do no harm and might prevent adhesions? It would certainly simplify practice very much if such a rule could be adopted, but in point of fact atropine is as injurious in some cases as it is indispensable in others; and although, as we have seen, serious damage is done by the neglect of mydriatics, their employment is occasionally fraught with danger and followed by disastrous consequences. In fact, I have at the present time three patients under treatment whose sight has been injured, and one in which it has been destroyed, by the injudicious employment of this valuable remedy. The patient in the women's ward on whom I operated ten days ago is one of these. She is fifty-six years of age, and has been suffering for months past from occasional dimness of vision, and now and then the appearance of a halo round the flame of artificial light. These symptoms, although the portents of glaucoma, were only transitory in character, and she might have gone on long enough *in statu quo* but for an unfortunate accident. She complained to her medical attendant, who was prescribing she says for a bilious attack, and he applied some drops, which she tells us, in that curious phraseology which patients sometimes adopt, "expanded the pulp of her eye." Intense pain followed and sight was speedily abolished, so that when I first saw her she could only just perceive the light; in fact, glaucoma had been developed by atropine in the right eye, the left was actively sympathising, and the patient had not slept for nights. I at once excised a consider-

able segment of the iris; all the symptoms ceased as if by magic, she recovered rapidly, and useful though somewhat impaired vision has been restored.

Now these cases are by no means so rare that we can afford to ignore them; in a large ophthalmic practice they are constantly cropping up; indeed, they are more common than they used to be, because the new race of surgeons employ atropine more generally than their predecessors. In the case just quoted, the drops were prescribed more by way of doing something, than as a remedy deemed necessary for the treatment of the case; but it not unfrequently happens that cases of inflammatory glaucoma are mistaken for iritis and positively ruined by the instillation of atropine used with the very best intentions. The old lady from N—, on whom I performed iridectomy in both eyes three weeks ago, is a case in point. She had slight redness of the eyeballs, slight pain, and one or two attacks of vomiting. These symptoms were not thought very much of at the time, and although the condition of the sight, which was very much impaired, ought to have occasioned alarm, this was looked upon as a mere symptom due to a bilious attack, and she was assured that vision would speedily return. At this juncture a young practitioner assisting the gentleman in attendance saw the patient, pronounced the case one of iritis, and applied atropine; all the symptoms were speedily aggravated, and, although the pain, vomiting, and general symptoms have passed away since the performance of iridectomy, there is very little sight at present, and very little prospect of any to come. Last week, among my private patients, was a gentleman sent to me with a letter from his medical attendant stating that he had been suffering from rheumatic iritis, which had been treated by atropine. The case was one of glaucoma, and I was obliged to operate immediately—a proceeding which the patient did not anticipate, and for which he was by no means prepared. I need not multiply instances; enough has been said to show that the general practitioner who treats these cases of eye disease, unless exceptionally well informed, is beset by dangers—a Scylla and Charybdis, in fact: on the one hand, blindness from adhesions if atropine is neglected; on the other, glaucoma if it is employed in unsuitable cases. What is to be done? It behoves us to formulate some general rules for the guidance of the medical attendant, who is so frequently responsible for these cases in the early stages. What shall they be? Well, age is an important consideration. Young persons are not as a rule subject to glaucoma, although they not unfrequently suffer from iritis. I do not say young people never have glaucoma; indeed I have a case of cupped disc with tension under treatment at the present moment occurring in a girl of eighteen; and last week I had to excise the eyeball of a young gentleman, the subject of congenital dislocation of the lens, for



glaucoma absolutum, whose symptoms had been greatly aggravated by atropine. But as a rule young people are not likely to suffer from glaucoma, and the employment of atropine with patients under thirty, forty, or even fifty, is comparatively safe. But you will say, patients upwards of fifty years of age suffer from iritis and require mydriatic treatment. To which I reply, Certainly. The lady whose case I quoted at the commencement of this lecture was one of these. It has been suggested that only very weak solutions should be employed, and no doubt the danger may be in this way somewhat diminished; but then weak solutions will not break up adhesions. To set the iris free you require strong solutions frequently applied; moreover, feeble dilutions are by no means devoid of risk. I have seen glaucoma aggravated by very weak solutions of atropine, and the same remark applies to homatropine, which it was hoped might be employed with safety; in fact, I have at the present time a lady patient under treatment in whom glaucoma was induced by a 1 per cent. solution of homatropine, and I note a similar case is recorded in a recent number of the *Wiener Med. Woch.*

A patient complains of dimness of vision; to the unpractised eye there is an appearance of opacity; the case is supposed to be one of cataract, and atropine is used, either to improve sight by dilating the pupil or facilitate ophthalmoscopic examination, often with fatal effect. I remember a case of this kind occurred at this institution when it was first inaugurated. The patient was an aged female suffering from simple glaucoma; atropine was used through some mistake, and the symptoms were so much aggravated that she declined all further treatment on the ground that "them drops had blinded her." Are there no means of dilating the pupil without incurring these terrible risks? Have we no mydriatic that is safe? Are not some safer than others? These are questions which it is at present very difficult to answer. I am, however, inclined to think that cocaine will be found the safest mydriatic to employ in a doubtful case. Certainly it reduces the tension of the normal eye in a most marked degree—a fact we have frequently demonstrated during the operations for cataract performed under its influence; whether its effect will be innocuous, beneficial, or otherwise in glaucoma, however, remains to be proved. Any way, it will be long before medical men in general practice will have cocaine at hand to use in a doubtful case. Meanwhile, what advice can we give to the attendant who is called upon to treat a case of eye disease, which may be glaucoma, which may be iritis, or which may be simply surface irritation? Well, the best advice I can give in such cases, if there is the least doubt, especially if the patient is past middle life, is for the attendant to get rid of the responsibility. Medical men as a rule remain long in one place; their patients are their neighbours, friends, and acquaintances,

often of years' standing ; and it is a grave misfortune for a practitioner to have in his immediate neighbourhood—next door as it were—one who believes, rightly or wrongly, that his worst misfortunes are due to his attendant's want of skill, lack of interest in the case, or failure to appreciate peril. I therefore counsel, in view of the life comfort of the patient, and with regard to the reputation of the practitioner, that what is sometimes called "better help" should be called in. There are ophthalmic surgeons now in most towns, and it is better that those whose backs are broad should bear the burden, if burden there be to bear. For the successful treatment of an odd case or two of this kind can do no one any good ; while failure involves loss of reputation, more or less merited reproach, heart-burnings, and an uncomfortable feeling that you have not done your duty to a friend and client when his dearest interests in life were at stake.—*Lancet*, Sept. 5, 1885, p.421.

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#### 88.—ON CONGENITAL CATARACT, AND ITS TREATMENT.

By JAMES VOSE SOLOMON, F.R.C.S., Senior Surgeon to the Birmingham and Midland Eye Hospital.

Congenital cataract is not infrequently associated with a more or less imperfect development of the globe ; in many cases we discover evidences of an intra-uterine internal ophthalmia having existed, which is probably in certain instances a direct result of an irido-cyclitis—in plain words, inflammation of the iris and ciliary body. I am not sure that it is always possible to determine whether an apparently atrophied congenital cataract represents a lens that was originally imperfectly developed, or one which had undergone intra-uterine atrophy. Occasionally the lens is reduced to a small cretaceous mass, and the iris closely adherent to it. In some the cataract is only an item of a general disease of the eye with attendant imperfect neuro-retinal sensibility, and therefore it behoves the practitioner to give in such cases a guarded opinion of the visual value likely to be conferred by an operation. Infants who are affected with congenital cataract are not seldom the subject of convulsions, or have been so prior to the opacity attracting attention ; and it has been supposed by some that they hold the relationship of cause and effect, that the capsule of the lens sustains a rupture during the spasmodic seizure. I do not entertain this view, but consider the dual presence as either a coincidence or as having its origin in disease of the cerebral meninges, tubercular or syphilitic in its nature. While the foetus is in utero the cataract often undergoes more or less absorption. I remember operating upon a case in which the capsules of normal diameters presented the appearance of finely perforated tissue-paper ; these membranes were transparent, the opaque speckles being composed of minute atoms of lens matter. A single operation cleared the pupil in each eye.



In so far as my reading extends, no case has been recorded in which spontaneous absorption of a congenital cataract has been observed throughout its stages, until the capsule, dotted with a few minute bits of lens matter, alone remained. It was my good fortune to watch one such case from the commencement to the end of the process; it was also seen by many of my professional brethren, and a note of its occurrence appeared in the *Medical Times and Gazette*. Of the complete conversion of the substance of a congenital cataract into fluid I had a good instance in a girl of between thirteen and fourteen years of age. Nearly the whole of the turbid fluid escaped at the side of the needle through the corneal puncture, leaving the pupils black and clear. The procedure was followed by a good deal of reaction. The cataract may, however—and, indeed, often does—present great solidity (relatively to the age of the patient), with a firm nucleus, which, when touched by the operator's needle, shells out, as it were, into the anterior chamber, and demands special treatment, in order to secure the eye from a troublesome if not dangerous irido-choroiditis. The hereditary transmission of senile cataract is an occurrence well known, and often met with in practice; congenital cataracts are illustrative of the same law.

The treatment of congenital cataract is by the operation of solution. I esteem it an advantage where the capsule is thickened, or the lens very firm in consistence, to use two needles. And in healthy children, after opening the capsule, I like to make a small puncture at the margin of the cornea (paracentesis) to allow of the escape of any loose lens matter, and so to obviate choroidal irritation, and perhaps the increased tension that sometimes follows in its train. When the subject's health is questionable, notwithstanding carefully conducted treatment for its correction, I operate upon one eye only, and wait the result before proceeding to treat the companion organ. Where a firm nucleus escapes from the lens into the anterior chamber, I break it up by pressing it with the flat side of the needle against the concave of the cornea, supporting that membrane at the same time with the tip of the left index finger. In our efforts to attain solution of the cataract, it is important to avoid dislocation of the lens from its normal seat in the hyaloid fossa; the integrity of the vitreous humour should also be carefully guarded; and the young surgeon must restrain his hand from doing too much at the first operation. In atropine we have an agency which is directly and indirectly an antiphlogistic. It constricts the arteries, and by its mydriatic power keeps the iris out of the way of pressure from the cataract swollen by imbibition of aqueous. The mydriasis also promotes a more free exosmosis. If a second operation is required, and such is commonly the case, too long an interval must not be allowed to elapse, or the capsule will become tough and difficult of laceration.

In dealing with *lamellar cataract* I prefer to leave one of the

lenses intact, and to institute a narrow iridectomy on the outer circle of the iris of the same eye. On the companion eye I act by solution, having first premised a rather free iridectomy of the upper circle of the diaphragm. By this proceeding (originally proposed, Mr. Anderson Critchett informs me, by his father) I give my patient a good eye for near objects, and one for comparatively long distances, with which, if his refraction is good, he will recognise friends in the street unaided by a glass. In many of my cases the eye has been hypermetropic, when a suitable spectacle-glass was required for its correction. We are sometimes consulted about young people of from twelve to fourteen years of age, who, although their eyes are cataractous, have been able to get through the usual curriculum of school work. But it is attended with fatigue, and the eyes get red and irritable. What is the best thing to be done? I advise operative interference where a career that demands serious study has been determined upon. In the instance of children unhealthy from hereditary disease, persevering exclusion of light from the eyes during the treatment may ensure a success which would otherwise be unattainable.—*Lancet*, Aug. 29, 1885, p. 375.

#### 89.—CLINICAL NOTES ON THE TARSALE TUMOUR.

By J. VOSE SOLOMON, F.R.C.S., &c., Birmingham.

The tarsus is frequently the seat of a well-defined tumour, of the size of a boiled green pea, which has a tendency to soften and discharge itself by ulceration through the cartilage on its conjunctival surface. It is a disease of the Meibomian follicles, from which no age is exempt, though it is more frequent in the interval of adolescence and the middle period of life, and oftener among women than men. I have seen the tumour in an infant in arms, and occasionally in a man well advanced towards the patriarchal term of life. It varies in size and number. I operated upon one as large as half a cob-nut, which almost completely covered the upper eyelid, and caused acute inflammation of the integument covering it. The disease is often solitary; but I have seen the upper eyelid studded with little tumours of the size of partridge-shots, and in this instance they had excited considerable distress and conjunctival inflammation. In the upper lid the tumour is more often situated near its centre than in the lower, where the extremities of the cartilage appear to have a greater predisposition to the disease; and it is here also that the morbid process extends occasionally into the free margin of the tarsus. In cutting into a tarsal tumour, pus sometimes escapes from its centre, no indication of its presence being afforded by the colour of its integument, which retains in many cases a normal appearance; whereas in others the growth of the tumour not infrequently excites inflammation of the skin covering it, and the underlying cellular tissue



may become the seat of an abscess. The evacuation of pus by incision from either of these situations is not followed by reduction of the inflammatory state, the tumour apparently acting as a foreign body, for on its removal all irritation soon subsides. In a few cases complaint is made that the vision is dim, which disappears on removal of the substance; in some there is pain with a sense of weight, on account of which surgical aid is sought. The tarsal tumour sometimes disappears by absorption, independently of treatment of any kind. Its tendency is to soften, evidence of which is afforded by the appearance of a dark mark of irregular outline on the conjunctival side of the swelling; and if not interfered with, this part ulcerates, the jelly-like contents escape, and a rather hard button-shaped granulation results, which by friction on the eye-ball may occasion much pain and inconvenience.

In a case recently under my care at the Eye Hospital, the tumour, which had not softened, bled when sliced as freely as if it had been a nævus. If the removal of the tumour is decided upon prior to softening having taken place, the whole of the disease should be excised, or the cure will not be complete, and reproduction be almost certain. And where the growth has invaded the free border of the tarsus it must be removed by the knife, care being taken that the notch in the cartilage does not implicate the skin. Large tumours in a state of inflammation involving the integument are most conveniently treated by excision externally. Where softening has been evident, I have sometimes trephined the conjunctival aspect of the growth, but it is more painful than a crucial incision. The application of solid nitrate of silver to the walls of the emptied cyst I hold to be a barbarism altogether unnecessary, and often occasioning much suffering and loss of time to the patient. —*Lancet*, July 4, 1885, p. 6.

#### 90.—ON THE REMEDIES WHICH HAVE BEEN INTRODUCED INTO MODERN OPHTHALMIC PRACTICE.

By HENRY POWER, M.B., F.R.C.S., Senior Ophthalmic Surgeon to St. Bartholomew's Hospital, London.

New remedies are constantly being introduced into practice, some of which take their place as permanent additions to our pharmacopœia, whilst others, after trial, fall into disuse. Within the last few years, we have seen eserine, homatropine, duboisin, jequirity, and cucaine introduced.

*Jequirity*.—The infusion of the active principle of the abrus precatorius has taken no firm hold of the practitioner in this country; either the cases in which it has been found most useful abroad, granular lids with vascular pannus, are not of so severe a nature, or it has been felt that the violence of its action cannot be con-

trolled; inflammation of the lacrymal sac and sloughing of the cornea have been induced, or other remedies have been found equally effective.

*Duboisin* has proved painful and dangerous without equivalent advantage. It is different with the others.

*Eserin* undoubtedly occupies a high rank in the list of remedies in ophthalmic surgery, and perhaps it may be placed in the same line with atropine and with cucaine. With only these three remedies in his case, the ophthalmic surgeon may do much towards the cure of many ophthalmic affections.

*Homatropin* is a satisfactory remedy when quick and brief dilatation of the pupil is alone required. When complete relaxation of the ciliary muscle is not wanted to determine errors of refraction, it supersedes atropine.

*Cocaine or Cucaine*.—The last remedy which has been introduced into ophthalmic practice seems to be of at least equal value with those I have just mentioned. In cucaine, a local anæsthetic has been discovered which abolishes the use of chloroform, with its risks and dangers, in cataract-operations, in all operations affecting the cornea, and in those affecting the conjunctiva alone, and which materially reduces, if it does not altogether remove, the pain of operation on the iris and the muscles of the eye, as well as on the lacrymal apparatus. This is indeed a great boon. Immense as are the advantages of chloroform and ether in preventing pain from being felt, and in maintaining the patient at such perfect rest as will enable the surgeon to perform delicate operations with precision and at his leisure, and to change and modify his proceedings with the exigencies of the case; still these have their disadvantages. A fatal issue in the case of chloroform, when skilfully administered, is, indeed, of extremely rare occurrence, though, on these grounds, for many years past, in all cases requiring operations admitted into the ophthalmic wards of St. Bartholomew's Hospital, in which an anæsthetic was given, chloroform has been selected in preference to ether, and no bad results have as yet occurred.

In the discovery of cucaine, however, a new era seems to have dawned. Since its introduction at the beginning of last year, many of the minor operations have been performed under its influence, and it seems to be admirably adapted for cataract-operations without iridectomy, which can be performed after its application for a few minutes without the slightest pain being experienced.

In relation to the action of this drug, I would desire especially to call attention to the valuable results of an experimental enquiry into its properties, which has just been instituted by Mr. Jessop, of St. Bartholomew's Hospital, supplemented by clinical observation and experience. His investigations have led him to conclude that



it acts essentially as a stimulant to the sympathetic system of nerves, in consequence of which it effects dilatation of the pupil, constriction of the blood-vessels, diminution of the intra-ocular tension, enlargement of the palpebral fissure, and protrusion of the eyeball. His observations are of interest as affording an additional link in the chain of evidence proving that the sympathetic system innervates the dilator fibres of the pupil. It has appeared to me that the operations I performed with the first specimens of cucaine obtained, were attended with less pain, and also with less dilatation of the pupil, than those of more recent date. Is this owing to the drug having been less carefully prepared to meet the great demand, or is it due to some variation in the composition and activity of different specimens, or, finally, is it owing to the circumstance that it produces more anæsthesia in some persons than in others?—*British Medical Journal*, Aug. 1, 1885, p. 207.

#### 91.—ON THE “SHADOW TEST” (OR RETINOSCOPY) FOR ANOMALIES OF REFRACTION.

By EDWARD JACKSON, M.D., of the Eye and Ear Department of the Pennsylvania Hospital, Philadelphia, U.S.A.

Though the special form of the shadow-test developed below has, I believe, never before been described, suggestions of its essential features may be found in three papers by Chibret, Story, and Priestley Smith.

*Method of Examination.*—The patient, with his accommodation at rest, is placed in the dark room, with the source of light just above his head, and far enough back to leave his face in shadow. He is told to look at the observer's forehead. The observer stands in front of the patient armed with a plane mirror; the simplest form being a piece of looking-glass one inch wide, three inches long, with the silvering scraped from two-thirds its length, and a hole three millimetres in diameter at the centre of the square that remains. With this mirror the light is reflected upon the patient's eye and face. Now, by rotating the mirror to the right about its vertical axis, the area of light upon the patient's face (facial area) is made to move to the right; by rotating it in the opposite direction, the facial area is moved to the left. By rotating it in other directions about other axes, the facial area may be made to move upward or downward, either vertically or at any oblique angle. Now the light which falls on the pupil passes back and forms on the pigment coat of the retina a second smaller area of light, the retinal area. This retinal area, it can be readily demonstrated, moves when the facial area moves, and always “with” it, that is, in the same direction. But the observer, by placing his eye at the central aperture of his mirror, can study in the patient's pupil the direction of the apparent movement of this retinal area. This

will correspond to the direction of real movement when an erect image is viewed, but will be the opposite of the direction of real movement when an inverted image is under inspection. Hence, the *real* movement of the retinal area being always with the facial area, when the *apparent* movement of the retinal area is with the facial area, the fundus is perceived in the erect image; when the apparent movement of the retinal area is against the movement of the facial area, the fundus is perceived in the inverted image. So much for the optical basis of the test.

*Its practical application in Simple Myopia.*—Rays of light from any given point of the retina emerge from the myopic eye convergent, and meet at the point in front of the eye, for which the eye is optically adjusted. The accommodation being in abeyance, this will be the far point of distinct vision. So that there is formed at the far point of the myopic eye an inverted image of the retina. If now the eye of the observer be placed between the patient's eye and its far point, there will be seen an erect image of the patient's retina; but if the observer view the patient's eye from somewhere beyond its far point, he will see, not an erect image, but the inverted image formed at that far point. In the first case the boundary of light and shade which marks the border of the retinal area will appear to move with the facial area; in the second case, against it. In practice the surgeon begins the examination somewhat more distant from the patient than the far point of the eye under examination. Then he slowly approaches the patient, all the while watching the apparent movement of the retinal area produced by slightly rotating the mirror from side to side about its axis. As long as this apparent movement is opposed to that of the facial area, the surgeon knows he is watching the inverted image at the patient's far point. Presently, however, the direction of the movement of the retinal area cannot be distinguished, the far point has now been reached; and coming still closer the apparent movement again becomes distinct, but is seen to correspond in direction with the real movement, the far point has now been passed, and the patient's retina is being viewed in the erect image. By noting the point at which this reversal occurs, the surgeon notes the far point of the eye under observation; by measuring the distance from this point of reversal to the eye, he measures the distance from the patient to his far point of distinct vision; and the reciprocal of this distance, of course, expresses the degree of his myopia. Thus, supposing the point of reversal to be one-fourth of a metre in front of the eye, one divided by one-fourth equals four, the number of dioptries of myopia present.

[The methods of using the test in hypermetropia, emmetropia, and astigmatism, are also given in detail in the original paper, to which the reader is referred for further information.]—*American Journal of Medical Sciences*, April 1885, p. 406.



## 92.—ON ASTIGMATISM AS A CAUSE OF SICK HEADACHE, AND ITS TREATMENT.

By H. BENDELACK HEWETSON, Ophthalmic and Aural Surgeon to the Leeds General Infirmary.

It has, within the last few years, become fully accepted by ophthalmic surgeons, and the medical profession generally, that there is a close relation between many forms of headache and some uncorrected visual disorder. So much so, that few medical men ever treat an obstinate case of headache medicinally, without having first settled the question as to whether some kind of optical defect may not in reality be the underlying, and, until the last few years, the unsuspected cause. The most usual form of headache is a frontal or occipital pain associated with the optical defect known as hypermetropia; the cure of which, as is now well known, depends on the proper use of rightly selected glasses. In investigating these cases my attention was frequently drawn, sometimes quite accidentally by a casual remark, to the fact that the sufferer from this form of headache had, in many instances, occasional attacks of sick headache, sometimes weekly, or fortnightly. I found, also, that by far the greater number of persons who suffered from sick headache in association with an optical error in their eyes, were either the victims of abnormal astigmatism in one or both eyes, or that some had eyes of different focus.

My object, therefore, in this paper is to show, not only that in *some cases* is the attack of sick headache *entirely* due to this error of refraction, whether allied with astigmatism or not; but that the vomiting, and in some cases the *intermediate dyspepsia*, which occurs in persons between their attacks of sick headache, arises from the same cause, and is capable of correction by the same means, viz., the wearing of accurately adjusted cylindrical lenses, which correct the astigmatism as well as any general optical error which may also co-exist.

I particularly wish it to be clearly understood, I do not think *all* sick headaches come from an optical defect, for it is well known that decayed teeth or central irritation of the ear are frequent causes, as well as other more general neuroses.

But I have some patients who have been martyrs to sick headache: who are also astigmatic, and in whom a complete cure has been effected by the use of cylindrical lenses; showing that when sick headache and its accompanying dyspepsia is due to reflected irritation, in a neurotic subject, from the eyes to the stomach, complete immunity from attacks of this kind may be obtained by glasses; and further, as I have observed, a very marked improvement in general cheerfulness and health. I may here remark that many persons who suffer from sick headache are astigmatic in an abnormal though slight degree, and it is only by straining their

eyes by looking long and hard at some fine object, or exercising such feats of sight-seeing as *doing* the National Gallery and the Academy in one day, or severe microscopical study, reading, and the like, which will irritate the brain sufficiently to cause an attack. One patient says he always suffers sick headache after watching a play; another actually brings on headache and vomiting by doing fine sewing: a third has sick headaches only when reading for an examination; a fourth, when she was at school, not since; but all proving to be astigmatic, and completely cured by the systematic use of glasses constantly worn.

I felt curious to test the eyes of several of my medical friends who suffered from periodic sick headache. I have done so in five instances, in all of whom there exists marked astigmatism; but they (all but one) still prefer to bear their sick headaches than wear the necessary correction in the form of glasses, which my investigation leads me to believe would give them entire immunity, provided there was no cause of reflex irritation other than that arising from the eye. In making the necessary examination of the eye for the selection of astigmatic glasses, I quite accidentally stumbled on the fact that patients whose eyes had been placed under the influence of atropine entirely lost their headache and their tendency to sick headache temporarily, so long as the atropine was applied.

I have found several cases of sick headache associated with very slight astigmatism, hardly to be considered abnormal, but in whom there was considerable hypermetropia. In these the use of a simple convex glass, which corrected the hypermetropia, proved a complete cure for the sick headaches. This is, however, the exception; usually it is the unconnected astigmatism which keeps up the tendency to sick headache when glasses have been previously worn.

A married woman of 38, Mrs. P——, with a large family, provides me with the opportunity of giving notes of a case of sick headache, vertigo, and faintness, which I had under my observation first in 1872, and which has continued without relief from treatment until this summer, when she again came under my care in the Leeds Infirmary. Her vision with each eye was Snellen  $\frac{2}{70}$ , and she required  $+ \text{cyl} : \frac{1}{20} \bigcirc + \frac{1}{36}$  to correct her defect. I was quite unable to arrive at any accurate conclusion as to the amount of her astigmatism without the prolonged use of atropine: the variability at each testing after weeks of atropine showed that her accommodation, by constantly attempting to cope with the optical defect, had become spasmodic. But by the use of atropine her sick headaches had been gradually reduced in frequency, as the accommodation became subdued by the atropine, until at last they have disappeared, the first time for twelve years. A curious incident occurred since this patient came under my care. The term of occupation of her house being ended, she was obliged



to seek a new residence. During the removal of her goods she forgot to put in the atropine for a whole day, and found her headache returning; but having once appreciated the relief from the pain which the drops gave her, she was thus reminded to re-apply them. This done, within the hour following her headache disappeared. The attacks of sick headache in this case have frequently followed prolonged attention to sewing. Since she has been under treatment she has had no sick headaches. She has worn the glasses three months, during which time she has had no headache or vomiting, and she quite spontaneously volunteered the remark that her food had done her more good, and the digestion, which was before impaired, is now quite good. She complained, besides the headache and vomiting, of a choking sensation and pain in the throat. This has entirely disappeared with the rest of her symptoms. Her health is now much better, and her general appearance improved. She says—to use her own words—“I have been a new woman since I commenced with the atropine drops. They entirely cured my headache and vomiting.”

[After giving details of fifteen other cases, Mr. Hewetson says:]

I feel that it is unnecessary further to press the connection between sick headache and abnormal condition in the eyes, chiefly astigmatic. It would simply mean a tedious repetition of the details of cases more or less alike in that they occur in neurotic subjects, the sympathetic system of whose brains is irritated by the eye attempting to overcome its defect; this irritation and pain apparently depresses the individual, and reflects its influence to the heart and stomach by the pneumogastric nerve. The dyspepsia which intervenes between the attack of sick headache is clearly, in some cases purely, a symptom of optical error, and remediable by proper treatment of the eye. The insomnia, vertigo, rising in the throat, and great irritability of temper, which I have noted, are, I believe, to be explained in these cases in the same way. The light which fell from Dr. Clifford Allbutt, making plain the neurotic element in many forms of dyspepsia, has made me, doubtless, bolder to report these observations, which have resulted in relieving many cases so markedly. During the preparation of the early part of this paper, I was told that Dr. Lauder Brunton was working out cases on somewhat the same lines; I accordingly wrote to Dr. Brunton and asked him—which he kindly did—to send me any writings of his on the subject. I was able to read his interesting remarks, in conjunction with this paper, before the meeting of the Leeds and West Riding Medico-Chirurgical Society, from St. Bartholomew's Hospital Reports, Vol. xix., under the heading, “On the Pathology and Treatment of some forms of Headache.” I will quote some remarks in support of my views, which are the more interesting since they were made independently of mine. He says, “But frontal headache is not the only one which may arise from

abnormal condition of the eyes, for megrim or sick headache is very frequently associated with, and probably dependent on, inequality of the eyes, either in the way of astigmatism, myopia, or hypermetropia.

It must be understood that the object of my paper will be attained if I have been able to show that *many* cases of sick headache, I may almost say *most* cases, when dependent on visual disorder, are the result of the more ordinary forms of optical error, hypermetropia, or myopia, *complicated by astigmatism*. If the astigmatism be completely corrected by glasses which are *constantly* worn, my cases go to show that the bilious vomiting, headache, and chronic dyspepsia will also disappear.

I have withheld from this record many cases of astigmatism, where there has not even been the ordinary frontal headache of visual disorder, meaning only to deal with those instances in which all the patients' troubles were cured by the correction of their astigmatism. I have had also several cases of sick headache, arising from diseases of the ears, but these are only interesting in association with the present paper, as showing how many an unsuspected cause of irritation to the brain may, in some neurotic natures, cause the most unsuspected symptoms.—*Medical Times and Gazette*, March 21, 1885, p. 375.

### 93.—WOLFE'S OPERATION FOR DETACHED RETINA.

By J. MACGREGOR-ROBERTSON, M.B., C.M., Glasgow University.

The patient is put under chloroform. A slit is made in the conjunctiva, and it, as well as the subconjunctival tissue, is dissected off the sclerotic to the place behind the site of the detachment. The eyeball is then rotated to bring the site of detachment opposite the opening in the conjunctiva, and a lance-pointed sclerotome passed through the sclerotic. During its withdrawal slight pressure is exerted on the globe, and the withdrawal of the knife is invariably accompanied by a discharge of serum. In order to make as certain as possible that all the fluid has drained off, a small silver spatula is introduced between the lips of the wound; this may be repeated till fluid ceases to appear. The eye is then permitted to return to its normal position, and the wound in the conjunctiva closed by one or two thread sutures. A simple compress is applied, and the patient kept to bed for three or four days before any examination is made. Now it requires little discrimination to perceive that this method differs so markedly in its details from that of Sichel, as adopted by Graefe, that it is practically an operation by itself. The chief element is the dissection of the conjunctiva and subconjunctival tissue, and the rotation of the globe to bring the site of detachment to the front. This ensures, first of all—that is, if the site of detachment has been accurately determined (a necessary pre-



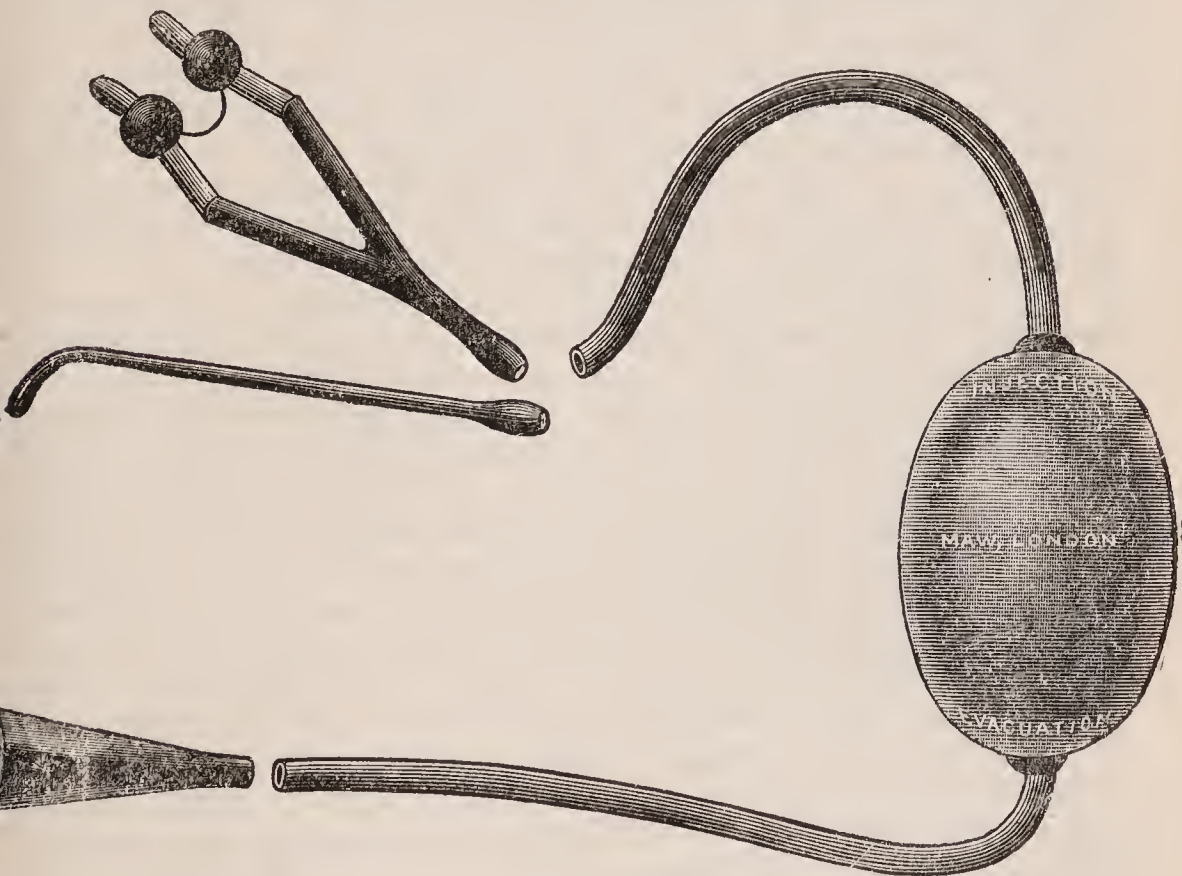
liminary to the operation),—that the sclerotome shall pierce nothing but the coats of the eyeball intervening between the dropsical fluid; it ensures, that is to say, that only the smallest puncture shall be made that is sufficient to permit the escape of the pent-up fluid. Secondly, it guarantees that the fluid shall escape, and that the fluid that escapes is the subretinal fluid. That is a very different thing from plunging a knife through the conjunctiva into the globe of the eye in the hope that it will penetrate to the sac of the detachment, then turning and withdrawing it in the faith that fluid has flowed out, with the qualifying suspicion that if fluid has passed out of the globe it may be the vitreous. Even supposing that the path of the knife has been properly directed, that the sac of the separation has been reached, and that its contents, and only its contents, have been afforded a channel to the outside, the method of performing Graefe's operation leaves it only too probable that as soon as the knife has been withdrawn the opening may be blocked by subconjunctival tissue and otherwise, and some fluid remain beneath the retina. That this is not a mere theoretical objection is admitted by v. Kries, who explains one of Graefe's cases by supposing some fluid had been left behind. Now, than Wolfe's method none could afford more certainty that all the dropsy had been evacuated. A second element of importance in Wolfe's method is the character of the knife. He does not employ a cataract knife, because, being wedge-shaped and sharp on one side only, it is impossible accurately to limit the extent of the puncture, since the knife, in spite of care, will tend from its shape to travel in the direction of the sharp edge. A much larger wound may be made than is supposed, encouraging ectasia, especially since the nature of the scleral wound is not visible. The knife employed is lance-shaped, narrow, the lance passing at an open angle into the stem a short distance from the point. The wound in the sclerotic is thus strictly limited, and the depth to which the knife is passed accurately gauged. A third element in the operation is that the patient is always under chloroform, which, with the dissection of the soft parts, permits a rotation of the eyeball, and an accurate adjustment of it, impossible otherwise. These, I think, are very important distinctions between this operation and scleral puncture as performed by Graefe.—*Lancet*, July 11, 1885, p. 56.

#### 94.—NEW AURAL INFLATOR, EVACUATOR, AND INJECTOR.

By J. WARD COUSINS, M.D., F.R.C.S., Surgeon to the Royal Hospital, and to the Eye and Ear Infirmary, Portsmouth.

The new aural inflator represented in the engraving is a contrivance designed to fulfil several important purposes in the practice of everyday aural surgery, and it is, in fact, a combination of several instru-

ments, admitting of many useful applications. 1. It serves for inflating the middle ear as an ordinary Politzer's bag. 2. It can be used as an evacuator for the withdrawal of fluid by the Eustachian tube; or as a pneumatic tractor applied to the external auditory canal. 3. It can be employed also for the injection of medicated air charged with the vapour of deodorisers or other volatile fluids. When the instrument is to be applied for tubal inflation, the nasal piece should be adapted to the orifice of the nostrils by means of the wire loop which unites the vulcanite balls.



The Eustachian catheter may be substituted for the nasal piece in those cases in which it is desirable to operate upon one ear only. The hand ball is especially fitted with very small valves and a central recoil spring. The end of one of the tubes attached to it must be fixed on the nasal piece for inflation, the end of the other tube for evacuation. Very gentle compression of the hand ball is sufficient for the withdrawal of fluid from the Eustachian tube and tympanic cavity; but the bag must be forcibly and rapidly manipulated for successful inflation. When medicated air is to be injected, the fluid selected must be dropped upon the pledget of cotton-wool placed in the conical vulcanite receptacle, which should then be adjusted on the end of the injecting tube. By the action of the hand ball the air is drawn through the perforated lid, and thus charged with vapour.—*Lancet*, June 6, 1885, p. 1031.



## 95.—ON DEAFNESS FROM EXHAUSTED NERVE.

By ROBERT J. COOPER, M.A., M.D., South Kensington.

[Mr. Cooper divides deafness into obstructed hearing, as from wax, or some disease of the auditory apparatus, the nerve remaining good; and into exhausted hearing in which the reverse is the case.]

Exhausted hearing belongs to nervous deafness properly so called, and it is to be diagnosed, firstly, by the history of the case, and, secondly, by the symptoms present. Both these are very characteristic. In this respect the ear takes its place in medical science along with the spine. In the diseases of both these parts the history and the symptoms are of unusual importance to us in forming a correct diagnosis; indeed the ear ought to be looked upon as much more an appendage of the spine than of the brain. It is probably in as great, if not greater, sympathy with the former than the latter. The history of the exhausted hearing is that of a sudden and pronounced deafness, generally attended with a sense of numbness and deadness of the ear, that comes on suddenly after an overpowering and exhausting mental strain. The condition that results seems to be one more allied to paralysis than anything else; it resembles the retention of urine that arises after a mental shock, and that is owing to paresis of the detrusor urinæ apparatus. Further, there is often a history of the patient having had similar seizures; it is, therefore, usual to find a history of other seizures of deafness or of temporary nervous imperfections of other organs. This exhausted hearing is, then, characterised by coming on suddenly and by occasioning a high degree of deafness in a short space of time, and also I may add by disappearing with equal suddenness. This feature is often not elicited until we have closely and earnestly interrogated our patient. So that the obstructed hearing and the exhausted hearing agree in this, that the deafness is from the first considerable and the onset sudden, and the dispersion is often equally sudden in both forms. Then as to the tuning-fork; it is well known that dulness of perosseous hearing characterises nervous deafness, and this feature is of great value in forming a diagnosis. It is, however, not an invariable or a necessary feature of the early stages of nervous deafness, and impaired perosseous hearing is certainly not in all cases to be accepted as justifying an unfavourable prognosis. Then as to treatment: while nervous deafness, like obstructed hearing, may disappear suddenly, we cannot assign the period at which its disappearance may be counted upon. This, of course, is unsatisfactory; but it is not a little encouraging to find in pilocarpine, subcutaneously injected, a most promising remedial agent, and one that, in Dr. Barr's hands, has proved rapidly remedial. Gelsemium, too, has, in my hands, effected great things; and I can aver that there are a train of symptoms in every way resembling those of Ménière's disease, but

in which there is a nervous history, and in which this very valuable remedy proves curative. Dr. Sydney Ringer testifies to its efficacy in Ménière's disease, and I am sure it is in those cases in which nervous manifestations predominate in which it is so beneficial. My own experience, as well as a consideration of the nature of the affection, goes to prove that nervous deafness is quite as curable as are the nervous seizures of other organs. Thus far I have shown that, as with the bladder we may have retention of urine from urethral obstruction or vesical exhaustion, so with the ear we may have abolition of its chief function, either from mechanical, tubal, or meatal obstruction, or from widely-spread nervous exhaustion.

A third form of deafness is *enfeebled hearing* or *vascular deafness*. This I have shown to arise from imperfection in the muscular coats of the bloodvessels supplying the ear, and that its onset is referable to the consequences of an irritation that has lingered, it may be for years, upon the coats of the larger bloodvessels, and which, extending to those of the ear, gradually saps from them the vigour necessary for the maintenance of the healthy activities of the organ, and this, too, without the patient being in the least cognisant of the terrible mischief that is brooding. Consequently, I look upon it that this enfeebled hearing is simply the expression of long-continued irritation that has seized upon the aural vascular parietes; that it is therefore almost invariably accompanied, whether deafness be present or not, by venous and arterial bruits, which can be readily detected by the stethoscope in the cervical bloodvessels; and that by paying attention to the condition of these blood-carrying channels we can often anticipate, and therefore forestall, the coming on of this the most intractable form of deafness. Compared with other organs this very commonly met with enfeebled hearing furnishes us with an affection more tedious of cure than are similar diseased states of other viscera; its obstinacy would seem to be principally accounted for by the peculiarly broken up character of the aural circulation. It certainly is not an incurable affection. In this disorder, therefore, speaking broadly, but in this only, we find the diseases of the ear to contrast unfavourably in point of obstinacy with those of other organs of the body; and the fact that we are in a position to predict and to forestall its occurrence more than makes up for its inveteracy when a confirmed affection. Besides, I have great hopes that, like many other affections that once were deemed incurable, its intractability will soon be a thing of the past. When both ears are affected—and it is more common to find both engaged in vascular than in nervous deafness,—I have noticed that the left is generally the deafest ear in vascular deafness, the right in that due to nervous causes; it may certainly be taken as the rule that the force of the blow is more unequally felt in nervous deafness, and that in general it is the right ear that suffers the most severely.—*Lancet*, Aug. 29, 1885, p. 381.



## 96.—ON MUMPS AS A CAUSE OF EAR DISEASE.

By F. M. PIERCE, B.Sc., M.D., Senior Surgeon to the Institute for Diseases of the Ear, Manchester.

For some years, cases of deafness following mumps have been observed and reported by aurists and others, but owing to the defective knowledge of aural surgery amongst practitioners generally they have failed to appreciate the importance of mumps as a cause of deafness, although the opportunity of seeing the effect of the poison of mumps is more frequent amongst them than amongst specialists. So recent a work as that of Kramer, published in English in 1863, does not contain a single reference to mumps as a cause of deafness, and few writers before that date make any but the most hazy reference to the production of deafness by mumps. Under the heading of mumps, in Ziemssen, a work published within the last few years, there is a complete absence of any indication to show that deafness is amongst the sequelæ of parotitis. Vogel, the writer of the article in question, curiously enough speaks of mumps as produced, amongst other causes, by extension of inflammatory action from the auditory apparatus, and says that where pus is formed in the parotid gland, it may pass along the vessels and nerves that go from the parotid to the ear. During the last twenty years, in consequence of increased knowledge of the value of the tuning fork in the diagnosis of disease of the middle and internal ears, much more attention has been given to the enquiry by aurists, and an increasing series of reliable observations have been compiled.

During thirteen years' practice, I have met with about forty cases in which the connection between the deafness and the parotitis could be clearly traced in patients seen within a short time after the attack. In about as many more there were good grounds for suspecting mumps as the exciting cause of the existing ear defect; but owing to imperfect history, lapse of time since the deafness was observed, and the existence of other complications as probable causes, I have entirely omitted these from the list upon which this paper is founded.

In considering the probability of a direct effect of parotitis upon the auditory nerve it is well to bear in mind an observation of Politzer's, "that frequent causes of deafness from *primary* disease of the auditory nerve are general and infective diseases, such as typhus, parotitis epidemica, &c., and in judging of the disturbances of hearing, it is important to note that, amongst the nerves of sense, the auditory nerve is the most 'impressionable;' that is, its function is more frequently impaired by general diseases and by chemical changes in the blood in infectious diseases than that of the other special or sensory nerves."

Before citing a few typical cases from my own practice and that of others, I may summarise the opinions of those aurists who are

doubtful of the influence of mumps alone as a cause of disease limited to the internal ear by quoting Hinton, in his work published in 1874 :—"Next, or perhaps equal in frequency to scarlatina in this respect, stands mumps, which has an effect on the nervous apparatus of the ear which has yet received no explanation, and affords no clue to the use of remedies: every part of the ear being normal so far as examination can extend, but the function almost abolished. But some cases of damage to the ear from mumps present an intermediate character, showing clear signs of a tympanic disorder mixed with the nervous symptoms. The similarity of the nerve affection that follows mumps to that which ensues upon parturition is very striking, and the resemblance is increased by the fact that quite frequently the latter affection also is accompanied with symptoms of a catarrhal character."

[Here four typical cases of unilateral deafness, following more less immediately upon attacks of acute parotitis, are cited.]

The first point that strikes one in the above four cases is the severity of the degree of deafness that remained. It is generally complete on one or both sides, and although this does not necessarily prove that it is due to an affection of the internal ear, as some affections of the middle ear produce extreme deafness, it is tolerably conclusive that the nerve is chiefly at fault. The tuning-fork, when placed on the vertex, was not heard on the affected side in any of the four cases. As a rule, mumps attacks one ear only, although bilateral deafness is by no means rare. The next point is the frequent absence of all pain, and of all objective indications of the affection. There is rarely any otorrhœa or structural alteration to be observed in the meatus or membrane, but some degree of vertigo, staggering gait, or vomiting is noticed in nearly half the number of cases. The loss of equilibrium is of various kinds; sometimes merely slight dizziness, sometimes a distinct rolling gait, often a marked tendency to fall in some one direction, but this is rarely more than temporary. Again, the advent of the deafness is usually sudden, but its invasion occurs at uncertain periods, during or after the mumps.

The tendency of parotitis to leave deafness is not limited to children, and does not seem to be materially increased by the glandular inflammation proceeding to suppuration.

If suppuration of the middle ear occurs during an attack of mumps, there does not seem to be, on that account, any diminution in the subsequent severe and permanent deafness; probably owing to the fact that the formation of pus is an accidental complication superadded to, but in no way produced by, the auditory nerve lesion.

Like Roosa, Hinton thought that a catarrh of the middle ear after mumps, in some cases at least, might be the cause of the deafness; and in many of the cases which I have rejected from the tabular list I hope to give in a future publication, there is evidence



of subsequent repeated catarrhs having been excited by the attack of mumps. We know that the vascular system of the parotid gland is connected with that of the auditory canal and mastoid process, and these parts in turn are in direct communication by blood vessels with the middle ear and labyrinth.

How is it that catarrh of the middle ear unaccompanied by mumps is rarely a cause of sudden and permanent deafness? Why should acute catarrh of the middle ear occurring during mumps be attended by an amount of fever and vomiting which is rarely observed at other times? Although not proven, analogy and the history of these cases of deafness after mumps tend to indicate a metastatic inflammation, and the permanent auditory nerve defect, like the atrophy of the testes and breasts in some cases, warrants a belief in a more organic change than mere catarrh. In many cases of metastasis to the testes, &c., the rapid subsidence of the inflammation indicates a serous effusion, but in the ear only the more severe form has been observed, unless the catarrhal condition believed in by Roosa and Hinton be accepted as the milder form of metastasis of mumps.

Owing to the difficulty of obtaining a pathological examination of the inner ear soon after an attack of mumps, little is known of the condition of the labyrinth in these cases beyond the statement of Toynbee, mentioned above, and of Kirchner. Gruber has observed that in some cases of strumous enlargement of the glands of the neck he has found marked congestion of the labyrinth, and we may here obtain some indication of the action of mumps on the ear. From what I have seen of these cases I do not think that there is much hope of restoring the hearing power, unless prompt local and general treatment be adopted; and, when the patient is seen much earlier than is usually the case, it is doubtful whether electricity or any other agent can beneficially influence the terminal filaments of the auditory nerve in the labyrinth.

My object in drawing attention to this subject is to urge practitioners to more careful observation of the condition of the hearing during the progress of mumps, as they alone have the means of ascertaining the state of the ear at a time when the facts necessary to elucidate this enquiry can be readily obtained. The frequent absence of pain and discharge as indicating an affection of the ear during parotitis, and the fact, in most cases, that the power of hearing is fully retained on one side, have combined to distract the attention of the medical attendant from this possible and serious effect on the ear.

It is not improbable that some cases of deaf-mutism may have been caused by mumps occurring to children within the first five or six years of life, and forgotten later on, as too trivial a complaint to have produced so grave a result as total deafness and subsequent loss of speech.—*Medical Chronicle*, March 1885, p. 505.



## MIDWIFERY, AND THE DISEASES OF WOMEN, ETC.

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### 97.—ON A CASE OF MISSED LABOUR.

By ANGUS MACDONALD, M.D., F.R.S.E., Physician for the Diseases of Women, Royal Infirmary, Edinburgh.

[The following are the main points in the clinical history of Dr. Macdonald's very interesting case:—The patient, aged 23 years, when seen in January, 1885, had not menstruated from February, 1883, to March, 1884, when menstruation reappeared, and had considered herself pregnant. In January, 1884, she had had an attack of pains lasting three days, followed by some red discharge from the vagina. In April, May, and June, 1884, there had been a bad-smelling discharge from the uterus. In January, 1885, Dr. Macdonald found the lower part of the abdomen occupied by an oval, solid tumour, freely movable from side to side,—passing obliquely from the left downwards towards the right, and reaching to an inch above the umbilicus. The uterine sound passed upwards and backwards for two-and-a-half inches. No bruit could be heard in the tumour, and it was clearly continuous with the cervix, which was felt to be quite normal. On these data, considering that a tumour of the uterus of a fibroid character had attained in a young woman such huge dimensions, Dr. Macdonald concluded that it would be better to perform hysterectomy at once, which he accordingly did, the patient making an uninterrupted recovery. As will be readily seen from Dr. Macdonald's remarks given below, the case was really one not of fibroid tumour but of pregnancy in one horn of a bi-cornual uterus, in which the effort made at expulsion in January, 1884, had failed, and consequently, in which labour may be said to have been missed. Dr. Macdonald, in speaking of the diagnosis of such a condition, says:]

In my case the great length of time after the death of the foetus leading to involution of the cervix, the absence of discharge of a bad-smelling character, and the regular recurrence of menstruation, with the possibility of catheterizing a uterus of normal size, combined with the imperfect history and some inexcusable neglect on my part, led to an erroneous conclusion. This was further facilitated by the fact that the part pressing against the lower uterine segment was the breech and not the head, which gave no feeling of bones or sutures, and felt exactly like a fibroid. Still, I frankly allow that a little care in enquiring into the history would



have suggested the possibility of pregnancy, or rather the probability. Further than that we could not have gone on the merits. The fact of what was called by the doctor in attendance a conception having passed further complicated matters, and made the case more obscure. It must have been the decidua from the unimpregnated horn, but might also have been the conclusion of the pregnancy. As to the diagnosis in general of the bicornual condition, the possibility, as in Salin's case, of finding a uterus empty, ought to suggest either bicornual or abdominal pregnancy when the foetus is carried to the full time. The presence of free lateral mobility would, I think, make nearly certain of a pregnancy in a bifurcated uterus; for we well know that an abdominal pregnancy, being situated in a sac formed from inflammatory exudation, must necessarily be pretty firmly fixed. It is only the abdominal, of the various extrauterine forms of gestation, that can go on to or near the full time. The obliquity of the tumour is also of considerable importance, as from their anatomical conditions the horns of a bifurcated uterus are inclined at a considerable angle to one another and to the mesial line; consequently, as one or other develops in its own axis, the direction of the resulting tumour must always be oblique.

Thus, to collect the most important diagnostic consideration, the history of a pregnancy advancing to full time before the death of the foetus, with failure of the uterine efforts to complete the delivery, no demonstrable obstetrical obstruction being present, ought to suggest the possibility of a pregnancy in a bifurcated uterus.

The presence of marked obliquity in the abdominal tumour, free lateral movement in the same, the history of a previous pregnancy or pregnancies natural and at full time, ought to strengthen the opinion. If, moreover, menstruation goes on regularly, notwithstanding that an apparently "missed labour" has occurred, this fact confirms the opinion, and ought to set the obstetrician to work by abdominal, vaginal, or anal examination to determine the position and condition of the other horn. That being determined leads us to the question of

*Treatment.*—This I hold should be laparotomy, not only for those cases that are diagnosed as pregnancy in a subsidiary horn, but for those that, in the present position of opinion, are usually called "missed labour." As I have already pointed out, I regard all, or nearly all, the cases of so-called missed labour to have been cases of pregnancy in a subsidiary horn of a bifurcated uterus. Nothing else to my mind can account for all the conditions, but it can. If we consider the fearful mortality of so-called "missed labour," we shall have no difficulty, I think, in reconciling ourselves to this mode of treatment.

Laparotomy, with simple removal of the entire unopened sac, as in my case, is suitable for those cases when, after many months or

even years, the containing sac has shrunk so far as to make this practicable. But for the more recent cases, it seems to me that to facilitate the delivery the opening of the sac and removal of its contents previously to the permanent ligature of the pedicle may be advisable on technical grounds, that is, the employment of either the Porro or Porro-Müller method.

The only other admissible treatment of such a case as mine would be to let it alone. But when we consider the very advanced state of destruction in which the membranes and parts of the foetus were found, and collate that fact with the disastrous histories of most of the cases of so-called missed labour, the prudent obstetrician will, I feel satisfied, give the weight of his opinion in favour of early operation, so as to avoid the risks of putrescence of the contents of the sac and consequent blood poisoning, or those of ulcerative perforation of the sac, the dangers connected with which are known to be very great. If Litzmann's case had been operated upon sooner, there is every reason to believe that all would have gone well, as the patient, to judge from the record of the sectio, manifestly did not die of the operation, but of the infection of her system before it was attempted. Salin's case did excellently, so apparently has an as yet unrecorded case of Sängers. Mine could not have done better. In such an operation a mortality of 1 in 4 is certainly not large.

It is to be remembered that, as the placenta is included in the tumour to be removed, one of the greatest risks attendant upon operation for extrauterine pregnancy is non-existent when we deal operatively with pregnancy in a subsidiary horn of a bifurcated uterus. Besides, the principle urged here is in accordance with the universal axiom of midwifery, viz., that by all means a patient whose labour comes on at full term must be delivered—as safely as practicable—but she must never be left undelivered.—*Edinburgh Medical Journal, April 1885, p. 887.*

#### 98.—ON LACERATIONS OF THE CERVIX UTERI.

By W. J. SINCLAIR, M.A., M.D., Physician to the Manchester Southern Hospital for Women and Children.

[Dr. Sinclair concludes an article which appeared in the April and preceding numbers of the Medical Chronicle, with the following valuable criticism upon Emmet's operation of trachelorrhaphy, and the relation of cervical lacerations to malignant disease.]

In connection with the advocacy of this operation there is one point which seems to me to have attracted too little critical attention. Emmet, in his *Principles and Practice of Gynæcology*, says:—"But, finally, a change of life is completed, when epithelioma springs into existence from the seat of the old injury as a product of perverted nutrition." Montrose Pallen (*British*



*Med. Jour.*, May, 1881) asserts that he has seen epithelioma thus produced; and Goodell, in a paper giving the results in 113 cases (*American Jour. of Obstet.*, Jan., 1882), supports this view. Similar statements have been made by Breisky, Olshausen, and others in Germany, and repeated without question by some writers on the subject in this country. I have nowhere seen any definite report of cases in point, such as ought to be esteemed even presumptive proof of a statement in any department of medicine. Struck with the importance of this point, if it could be established, I have for several years examined every case of uterine cancer which has come under my observation, with a view to ascertain if there had previously existed a laceration of the cervix. In the few cases seen at a comparatively early period there has been no evidence of laceration. Quite recently, however, I have met with two cases which seem to throw some light on the subject. The first case came under treatment on August 26th last year. The cervix had been torn across, and the anterior lip was a healthy, tongue-like body: the posterior lip, on the other hand, was large, soft, readily bleeding on touch, and when the speculum was used, there appeared an eroded surface studded with foul mattery patches. The case was diagnosed in the out-patient room as epithelioma, and the patient, who had been suffering for several years, readily consented to come into the hospital for operation. On closer observation after admission, it was discovered that the ulcerating patches were diseased cervical glands, and the case resolved itself into one of erosion of the posterior lip from combined laceration and retroflexion. Under treatment the patient rapidly improved, and the supposed epithelioma disappeared. The patient is still under observation; the diseased condition is returning since she went home, and the operation for restoration of the cervix will be performed shortly. A slighter case of the same sort is also under observation as an out-patient undergoing a different kind of treatment. These, I have no doubt, are the sort of cases that have given rise to the confident statements about epithelioma. That this is a fair supposition is rendered probable by the admitted difficulty of diagnosing extreme erosion from epithelioma in its early stages; and if it be well founded, then the advocacy of the operation from fear of future malignant disease comes to take rank as one more of the exaggerations which have formed such a prominent feature in the history of our subject. The real ground for fear sinks to the same level of importance as the practice of smoking or the possession of a jagged tooth occupies in the causation of epithelioma of the lip or tongue; perhaps it is as near the truth to say that it is of equal importance with another cause of disease suggested by a writer (*Centralblatt für Gynäkologie*, 1882, p. 244), who says:—"The mucous membrane of the cervix may, under certain conditions, be injured by coitus, a thing which perhaps

leads to malignant degeneration!" No cause, good or bad, can be helped in the long run by exaggeration: the advocates of Emmet's operation ought to cast out "epithelioma."

Space does not permit of a discussion of the relation between erosion and trachelorrhaphy. I may mention, as merely isolated observations, that I do not remember having seen the extreme form of erosion except in case of laceration-ectropium with the body of the uterus flexed over the lip on which the erosion existed. I have frequently satisfied myself of the fact that the field of the columnar epithelium of the cervical canal had invaded that of the pavement epithelium of the vaginal portion, and, *vice versâ*, the invasion of the canal by pavement epithelium being extremely well marked in long-standing cases of prolapse with exposure and hardening of the mucous surfaces. With such motility of tissues the absence of irritation appears to be all that is required to ensure a rapid return to their normal limits and conditions. If this be so, then Schroeder's operation for the restoration of the cervix, by which the diseased mucous lining of the cervix is first entirely removed, is unnecessarily severe, and therefore not justifiable.

The operation of trachelorrhaphy has been the object of a good deal of ridicule because of the practice, formerly very common, of incising the cervix in the course of treatment. The new procedure is said to be merely a reversal of the old practice of gynecologists, who feel that they must do something, if merely for the sake of appearances. One American surgeon who takes this line of argument (Dr. Clifton Wing, *Boston Med. and Surg. Journal*, 1880), goes the length of telling how two specialists in one city, who took opposite views on the value of Emmet's operation, made work for each other, one of them stitching up the incisions which the other had made in course of his practice. The objection has a sort of superficial plausibility which has obtained for it currency and popularity—after the manner of all superficialities; yet the slightest critical examination is all that is required to expose its hollowness. The incision made in the posterior lip of the uterus in the process of treatment of dysmenorrhœa from anteflexion, for example, is comparatively a trifling affair; it does not cause ectropium, and, indeed, one of the chief objections to the proceeding is the difficulty in retaining any benefit derived from it because of the tendency of the wound to heal and leave no trace of its existence. To speak of the making of such a wound as the reverse process of trachelorrhaphy is simply ridiculous. It is a confusion of thought, treating a complex organ as a simple entity, and comparing things as different as if they lay at the opposite extremities of the body. It would just be as relevant and rational to sneer at the operation for restoring the perineum, because some obstetricians have practised the making of lateral incisions during parturition—episiotomy—to prevent laceration in the median line. If there is



any solid argument of general application to be urged against trachelorrhaphy, it would be as well if the opponents of the operation would produce it, and withdraw this specious makeshift which appeals only to ignorant prejudice.

The operation has made a false start in England. Its reception is not quite explicable on the ground merely of unwise advocacy on the part of some American writers. Perhaps when British gynæcologists become less engrossed in abdominal section and other life-and-death operations, Emmet's "fruitful idea" may receive the consideration it deserves. It cannot continue for long to be overlooked; there is a too solid basis of merit in it. Its ultimate position may disappoint its enthusiastic advocates, but it must also discredit its indiscriminating antagonists. It may be abused and overdone, but that will be a reproach to the operators, not a just ground of objection to this or to any other operation. Trachelorrhaphy can hardly fail, when it has received an impartial trial, to supersede some of our painful, tedious, and futile scarifications, cauterisations, and intra-uterine medications, and to be recognised as supplying in suitable cases a valuable addition to uterine therapeutics.—*Medical Chronicle*, April 1885, p. 23.

#### 99.—ON THE OCCASIONAL LATENCY AND INSIDIOUSNESS OF GRAVE SYMPTOMS IN CONNECTION WITH THE PUERPERAL STATE.

By W. O. PRIESTLEY, M.D., LL.D., F.R.C.P., Consulting Physician to King's College Hospital, London.

When serious disease attacks the puerperal patient, it commonly declares itself within ten days after delivery, and indicates its presence by signs which are either unequivocal, or which at least are sufficiently marked to arrest the attention of the medical man, and to cause him to bestow more than ordinary care upon the symptoms. In reliance on this fact, women who have been delivered in maternity-hospitals are, if no untoward symptoms have appeared, allowed to leave, after ten or fourteen days of convalescence.

But there are cases not unfrequently met with, in which the progress of puerperal disease is much more insidious, and in which the indications of what has been going on in the way of morbidity are not apparent until a much later period.

I have extracted from my notes the record of three or four cases, the details of which were jotted down long ago, but which were written out with more care than others of a like kind which have occurred in my later experience.

[Of these cases we give one.]

Mrs. R——, aged 23, was delivered of her first child on October 2nd, 1865. The labour was tedious, and the medical man in

attendance, after allowing the second stage to go on as long as he thought was compatible with the safety of the patient, summoned me in consultation, and I delivered with forceps. The uterus contracted fairly well after the removal of the placenta, and there was no great hemorrhage. Two or three days after delivery, it was noticed that the uterus was inordinately large, but there was no tenderness and no fever. At the end of a week the patient had slight rheumatic pains in the limbs and chest. These were attributed to neuralgia, to which she was liable. No other symptoms raising the suspicion of pending mischief were noticed until a fortnight after delivery, when, in attempting to leave her bed, the patient complained of acute pain in the calf of one leg, and had to go to bed again. That evening and afterwards she was feverish, and had intermitting and throbbing pain in the back of the leg, with accelerated breathing. I saw her in consultation on October 26th, and found that for two or three days previously she had suffered from slight rigors towards night, and her temperature and pulse were both higher than normal. On examining the calf of the leg, it was found to be the seat of a phlegmonous swelling, and I thought I could detect fluctuation in the centre. The late Mr. Campbell de Morgan made an incision on the 28th, nearly a month after the date of delivery, and a large quantity of pus escaped from a deep-seated abscess. After this the patient recovered, and had no further untoward symptoms.

*Remarks.*—It becomes a most interesting question to determine what causes the difference between the more rapid form of disease, which has received the form of puerperal fever, and which, generally developing itself early in the puerperal state, speedily extinguishes the life of the patient; and the slower and more insidious cases which I have endeavoured to illustrate. If these be due to organic germs of disease in the blood, as is now generally believed, the inquiry suggests itself, Are both due to the same poison—the dose in the one case being larger than in the other, or are the germs essentially different in the two cases? Some of the tardier cases have many of the characteristics and affinities of purulent deposits, and it is possible that all the slower and later cases may be due to the growth and development of germs of disease, which differ generically from that which constitutes the essence of rapid puerperal fever.

The researches of the celebrated Pasteur seem to indicate that puerperal fever is due to a bacillus in the blood, which may not be specific, or may be found only in cases of puerperal fever, but which at any rate takes the form of long flexible chaplets of bead-like organisms. The pyogenic germ, on the other hand, is a form of vibrio, which is found in purulent matter, and is less virulent in character. The variety in the organic germ, which has gained entrance into the systemic circulation, may account for the differ-



ence of symptoms and effects as observed in patients. We are, however, as yet only on the threshold of these inquiries, and must wait for the further progress of research.

The practical points, so far as our present knowledge goes, are to be able to recognise, at the earliest possible moment, the indications of mischief in these obscure cases, and not to be thrown off our guard by underestimating the importance of symptoms, which, apart from the puerperal state, may be of trifling consequence.

1. Perhaps I may be permitted to dwell on the importance of securing a full and perfect contraction of the uterus after delivery, as a prophylactic measure. In many cases going wrong, it has been observed that the uterus was inordinately large, thus indicating a dilated cavity, in which clots or fluid, which ought to be discharged, are retained, and which may thus become the nidus for the possible development of diseased germs. Further, in an imperfectly contracted uterus, the sinuses or large veins remain full of clot, or of fluid blood, which is more or less apart from the general systemic circulation; and is thus, like the back-water of a stream, stagnant, and ready to become a source of peril. Clots should, therefore, always be carefully removed from the uterus, as they form for some time after delivery; and pressure with other means should be conjoined to promote full contraction.

2. The occurrence of a rigor at any part of the puerperal period should never be disregarded. It is nearly always the forerunner of some less or greater commotion in the system, although the mischief it portends may not be observed until the suspicion excited by its advent has well nigh died out.

3. The presence of rheumatic or obscure pains in the joints or muscles, even if they be flitting and transient, should be taken as indicating a possible contamination of the blood-current; and the case should be watched the more closely, if the patient be depressed in spirits, or if she be prone to be apparently hysterical. If, with these symptoms, there be no evidences of deviation in any special organ, the heart should especially be watched, with the view of ascertaining if there be indications of deposits in its valves. The sudden appearance of a *bruit* with the heart-sounds may be the precursor of embolism either in the pulmonary, or in the general systemic circulation. The temperature should also be carefully recorded, as it is probable that, in all cases of insidious puerperal disease, the thermometer will indicate some rise of temperature.

4. It should be remembered that patients who are inert in temperament, and who lead inactive lives during pregnancy, are more prone to puerperal ailments than others of more active disposition, and thus require more careful supervision.

5. The treatment of suspected cases should consist of putting the patient in the best possible hygienic conditions, and improv-

ing vitality by the administration of quinine and a good but judicious diet.

6. As it is probable that all germs of disease are imported from without, and that those of a less virulent character only find an opportunity of developing themselves in the bodies of women whose vitality is below the normal standard, it may be possible in many cases to prevent disease altogether by improving the health of the patient, and by the proper use of antiseptic precautions both during and after delivery.—*British Medical Journal*, Aug. 22, 1885, p. 337.

#### 100.—ON ANTISEPSIS BEFORE AND DURING LABOUR.

By HENRY GERVIS, M.D., F.R.C.P., Obstetric Physician to St. Thomas's Hospital, London.

I should like to take this opportunity of saying that, while too much stress cannot be laid on the importance of antisepsis after confinement, too little notice has, I think, been taken by most writers, and, by many, none at all, of the not less important subject of antisepsis before and during labour. The consideration of antisepsis before labour has to do with questions of drainage, ventilation, and general health; in a word, with the hygiene of the house and of the individual. The better the patient's surroundings, and the better her health, the fewer will be the sources from which germs may spring, the better able will she be to resist their entrance, and the less likelihood will there be of their development from within. Speaking generally, that is to say, surroundings have chiefly to do with heterogenetic sources of infection, and the patient's health with the autogenetic. The more sanitary the surroundings, the fewer the germs; the better the health, the less likelihood will there be, on the one hand, of the tissues of the genital passage succumbing to pressure if labour should chance to be unduly protracted; or, on the other hand, of a relaxed uterus permitting retention of coagula which may become the starting points of a septic toxæmia. Antisepsis during labour has been sought in Germany by the conduct of labour under the spray. This, we venture to think, is not easily practicable, and not free from risk by the condensation of carbolic vapour on linen and person; and even if practicable, not absolutely satisfactory as a safeguard; but, during the course of labour, although not in this way, the principle of antisepsis should never be lost sight of. In every case, the hands of the attendant should be washed in carbolic water before he proceeds to examination; and both before and after the labour the vulva should be sponged with warm antiseptic solution; and if the case tend to be tedious, though not sufficiently so to necessitate forceps, it is advantageous to sponge out the genital canal from time to time with a similar solution. In



all operative cases, I need hardly say it is now customary to dip the instrument in hot carbolised water; but I am satisfied it is also most useful to sponge out with the same solution the genital canal prior to their application. In a labour in which the forceps, and *à fortiori* where craniotomy, is demanded, there has, at least very often, been sufficient delay to lead to a septic condition of the discharges; and the removal of these by sponging much diminishes the chance of subsequent infection, should any breach of mucous surface occur as a result of the delivery. So also, in the induction of premature labour, the vagina should be antiseptically cleansed before the use of the bags; and between the removal of one and the introduction of the next, the same precaution should again be taken. In cases of placenta prævia, again, it has been my custom for some years, in addition to such antiseptic measures as I have already indicated as appropriate in every case, to mop the uterine surface from which the placenta has been detached with a solution of the perchloride of iron. In the first instance, I did this to check the post partum hemorrhage which often occurs from the placental site in prævia cases; but I believe that not only has it this virtue, but that it acts antiseptically as well, both by its influence on the bruised surface-tissue, and by its astringent effect on the avenues of entrance for germs, avenues which, on account of the cervical position of the placenta, are also more accessible to germs than where its implantation is fundal. In all cases of version, I need hardly say that, where the hand has to be introduced into the uterus, not merely the hand, but the arm also, should be sponged with carbolised water before its introduction; and, lastly, in cases of miscarriage, where it may be necessary to resort to manipulative proceedings, whether for the removal of the entire ovum, or of a fragment merely of retained placenta, careful attention to antiseptic details immensely lessens the subsequent risk of pelvic inflammation and systemic infection.—*British Med. Journal*, Aug. 1, 1885, p. 201.

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101.—ON A CASE OF SEVERE VOMITING IN PREGNANCY,  
FOLLOWED BY MISCARRIAGE AND DEATH.

By P. HORROCKS, M.D., Assistant Obstetric Physician to, and Demonstrator of Practical Obstetrics, at Guy's Hospital.

M. L., aged 39, came to Guy's Hospital amongst my outpatients last July, complaining that she had been vomiting incessantly for three weeks. She considered herself two months pregnant. On examination, I found the uterus about the size of a two months gestation; there was no malposition, and, with the speculum, no erosion. She appeared very anæmic, and, in answer to inquiry, said she was always more or less pale, but that she had become much more so during the last few weeks, owing, she thought, to

the vomiting, which prevented her from keeping any food down at all, so that she was practically starving. After treating her in vain for a fortnight, I took her into the hospital, and by rest in bed, with very careful dieting, and the trial of various drugs, of which tincture of iodine, in minim doses, appeared to be of most service, she got so much better that she went out apparently cured on September 20th, having been in the hospital five weeks, and being now between three and four months pregnant.

Whilst in the hospital, it was found that she had a mitral systolic *bruit*, probably dating from an attack of rheumatic fever twenty years ago. There was no albumen in the urine.

About a week after leaving the hospital, her legs began to swell, and her urine escaped whenever she coughed; but she was not sick, except early in the morning.

Her husband came to the hospital early in November to say that she was much worse. I gave him an order for her admission, but for some days she was too ill to be brought. She was admitted on the second occasion on November 12th, under my colleague, Dr. Galabin, who has kindly allowed me to make use of the case. Sickness was not now a prominent symptom, but she had great dyspnoea and cedema of the lower extremities. The urine was of specific gravity 1010; it contained no albumen. Urine passed involuntarily.

On the 15th, she was very sick all day. On the 17th, she was suddenly delivered of a child, which breathed a few minutes and then expired. It appeared to be about equal to a six months' foetus. She seemed better for a few hours, when she became unconscious, dying the next day without regaining consciousness. At the post mortem examination, the uterus was not found to be displaced. There was no erosion of the cervix. It was enlarged, corresponding with the recent delivery, but nothing abnormal could be discovered about it. The liver was extensively diseased by a primary encephaloid carcinoma, the parts not infiltrated by cancer being fatty. The heart was large, and the mitral valve had old fibrinous deposits on it. The kidneys were healthy.

*Remarks.*—At the recent discussion on this very interesting question at the Obstetrical Society, the time was so limited that no opportunity was given to myself, amongst others, of making any remarks. Had there been more time, I intended to mention the above case, which seems to me well worth recording.

It may be that the cancer of the liver had nothing to do with the severe vomiting in this case; but, had there been no pregnancy, I do not think anyone would have thought there was anything strange in this symptom with such a lesion, whilst the vomiting itself was so severe as to be, at all events, very unusual from pregnancy only.

The liver-disease is interesting, also, in its bearing upon the



reference made by Dr. Matthews Duncan to the researches of Hecker into the question of degeneration of the liver in pregnancy. Dr. Duncan drew attention to the difference between the sickness *of* pregnancy and the sickness *in* pregnancy, the former being that due to the pregnancy, and the latter being due to some other cause acting accidentally during the pregnant condition. Obviously these two forms of vomiting are quite distinct; and, in discussing the question scientifically, it is necessary to bear them well in mind, and so avoid all kinds of complications and differences of opinion which arise inevitably when one speaker is talking of one thing, and another of another thing.

But whilst this distinction is clear logically, it is by no means easy to be always certain with which form we are dealing, when a patient, who is pregnant, is attacked with severe vomiting; and I notice that the title of Dr. Graily Hewitt's paper is "Severe Vomiting *in* Pregnancy," and not *of* pregnancy. Now, if a case occur with severe vomiting in pregnancy, *plus* some disease which in itself is capable of producing severe vomiting, who can say that the vomiting is due to either the one or the other? Cases are on record where vomiting has not stopped, even after the induction of labour, and yet it is said that the vomiting was due to the pregnancy. Might there not have been some other cause in those cases?

When there is some obvious and well-marked malposition of the uterus, and the replacement into its normal position is followed by the cessation of vomiting, it is tempting to say that the malposition had caused the vomiting. But it is quite certain that there are cases of severe vomiting in pregnancy without any malposition, and without any other ascertainable cause for the vomiting than the pregnancy either ante or post mortem, and which would therefore come under Dr. Matthews Duncan's "*of* pregnancy." But where there has been no post mortem examination in a fatal case of vomiting, I do not think one is entitled to say that the pregnancy caused the fatal vomiting. It may have been the cause and the only cause, or it may have been an aggravation of some other cause, or it may have had nothing to do with it.

That pregnancy is a cause of vomiting is so well recognised, that vomiting is considered a symptom of pregnancy. At the same time, no one has ever yet proved in what way the vomiting is brought about. It is easy to theorise, and to say it is a reflex action due to stretching of the uterine walls, but no one has got beyond the conception of the hypothesis. But, supposing for a moment that this is the correct interpretation of the ordinary vomiting of pregnancy, we are still a long way off the solution of the question what causes the severe vomiting in pregnancy. For, first of all, we must assume that the vomiting is due to the pregnancy, and not to some other unrecognised condition; in other words, that

it is severe vomiting of pregnancy ; and then we have got to show what particular part of the reflex loop is at fault. We see the motor end, that is, the vomiting apparatus, in excessive and dangerous action ; and the question is, Why does this occur ?

One might resolve the numerous theories that could be brought forward into three kinds. 1. "Alteration in the stimuli;" by which is meant increase in degree or kind of that condition of the uterus, stretching of its fibres, or whatever it is, which causes the ordinary vomiting of pregnancy ; and this increase may be brought about in numerous ways, including malpositions of the uterus. 2. "Increased irritability of the afferent nerves or reflex centres, or efferent nerves, which form the reflex loop between the uterus and the muscles engaged in vomiting." If it could be shown by microscopic examinations that, in these cases of severe vomiting, the spinal grey matter between the entrance of the afferent (uterine?) nerves, and the exit of the efferent nerves for vomiting (gastric, œsophageal, phrenic, pneumogastric, intercostal, etc.). was in a state of increased irritability, either from disease in itself or in neighbouring parts, it would not only help to explain these cases, but would in itself support the reflex hypothesis of the ordinary vomiting of pregnancy. But, so far as I know, no observations have been made in reference to the condition of the spinal cord in severe cases of vomiting ; so that we do not know, either negatively or positively, the condition of the so-called superficial and deep reflexes during life, nor of the normal or abnormal histological appearances of the spinal cord after death. 3. "Increased irritability of the muscles themselves, which produce vomiting." I have often heard Dr. Wilks say that excessive action of an organ is not generally due to disease of that organ ; for instance, severe palpitation is not due to heart-disease, and severe vomiting is generally performed by a healthy stomach. Hence one does not expect to find a diseased stomach in these cases. At the same time, the muscular fibres in the stomach, without being diseased, might be more irritable from some cause or other, such as irritable ingredients in the blood, or pathological conditions of neighbouring parts—for example, hepatic disease.

All these theories on theories require supporting by many facts and observations, before they can be accepted as satisfactory.

Dr. Graily Hewitt has brought forward several facts in support of his view that malposition of the uterus is a cause of severe vomiting in pregnancy ; but many cases are on record, amongst which I would place my own, in which no malposition existed. Hence it follows that the severe vomiting in pregnancy may be due to different causes.

In women, vomiting is set going more easily than in men ; and any cause which would produce sickness in a non-pregnant state would act more potentially, if anything, if pregnancy existed.



Hence the possible causes of severe vomiting in pregnancy are as varied as the causes of severe vomiting in a non-pregnant state.

Of the causes of severe vomiting of pregnancy we know very little at present; but one thing seems to me quite clear, and that is, that the excessive sickness is not always due to the same cause; and, even if it be accepted that malpositions of the uterus will sometimes produce the symptom, it will be found that cases occur where this cannot be the explanation.—*British Medical Journal*, July 4, 1885, p. 13.

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## 102.—RESULTS OF SHORTENING THE ROUND LIGAMENTS FOR UTERINE DISPLACEMENTS.

By WILLIAM ALEXANDER, M.D., F.R.C.S., Surgeon to the Liverpool Workhouse Hospital.

I think I am now in a position to speak positively about the permanent results of shortening the round ligaments, the time element so much in request hitherto by critics being now in such quantity ( $3\frac{1}{4}$  years) as to satisfy the most cautious.

Thirty-seven cases have been operated on by me, and furnish my test of permanency, viz.: Twenty-eight in hospital practice, and nine in private practice. The nine private cases have been, and are still, all under my eye. In all of them prolapse existed, mostly complicated with backward displacement, and in four cases with inveterate, exaggerated retroflexion, such as no pessary could control, except the last new one, and it was too late of invention. One of my retroflexion cases curled back the second day after operation, and, in attempting to introduce a stem, the exceedingly nervous patient so shifted and struggled that the ligaments partly yielded, and the womb came down. The flexion, consequently, was never remedied completely. It is now much less than formerly; the womb, although flexed, is tilted forward, does not press as it did upon the rectum; and she has lost the dragging pain that she formerly had. In all the other private cases, two operated on four months ago, one six months ago, and six over one and a half years ago, their uteri maintain the positions in which I placed them at the time of operation. Four of these have been completely cured of all their symptoms; one has a floating kidney, which sometimes troubles her, but she has lost all her pelvic pains; one still suffers, but in an ever lessening degree, from chronic cystitis, that originated two years before operation, and from the retroflexion; in one I removed the uterine appendages, and verified perfectly by manual examination the normal position of the uterus, and the restraining position of the shortened ligaments, and three still suffer from repeated attacks of ovaritis, but have lost their dragging pains. It was doubtful whether these four last cases were suitable for the round

ligament operation, or whether it would not have been better to have removed the appendages. In three their lives are so much more tolerable that the latter operation will probably not be needed.

I cannot, of course, lay hold on all the twenty-seven hospital patients. A few disappeared immediately after their discharge from hospital, and have never been seen again. Fully two-thirds have been seen by me again and again, and tested by straining, &c., to see if any tendency to recurrence existed, without a single failure. Two cases, indeed, came back to me with the news that the womb had come down again. Both had been very bad cases of prolapse complicated with cystocele and rectocele, and just such cases as some of my reviewers ask incredulously whether the operation would be useful for them, and reply that they are afraid that it would not. In both cases I kept the women in hospital for several days, made them strain over hot water, walk rapidly up and down stairs, scrub floors, &c., and the nurse who examined them immediately after these exercises failed to find any uterine prolapse. The rectocele and cystocele bulged into the vulva on such occasions, and caused them to think that the prolapse was coming on. When assured that prolapse was, in my opinion, not to be feared, these women went out quite contented—fear rather than inconvenience having brought them into hospital.

One case of prolapse came under my care at the beginning of the present year, with a distinct prolapse after operation, the uterus really lying down between her thighs when I examined her. Her round ligaments had been shortened by another surgeon some time previously. Here, I said to myself, is a failure at last! On examining the cicatrices, I could see on the left side a dimpling of the scar, showing that that ligament still held to the pillars of the ring. I cut down upon the dimple, and, with a little searching, easily found the ligament and pulled it out easily for nearly three inches, thus displaying a splendid cord capable of thoroughly controlling the position of any uterus. The opposite ring and canal was filled with cicatricial tissue in which no trace of a ligament could be found. The left ligament was therefore fastened in position, and healed securely in the ordinary time. The patient is now going about, and I am convinced no failure will occur in her case: although, as I will immediately show, one ligament is not as good as two. Before coming to me, the patient had been going the rounds of the hospitals advertising a failure of the cure of prolapse. I leave my readers to judge of the justice of calling it a failure of my operation. I am now firmly convinced that failure will never occur after a thoroughly successful operation.—*Annals of Surgery*, May, 1885, p. 427.

[See also "Synopsis" of this volume of the *Retrospect*, for Dr. Alexander's description of the operation.]



## 103.—ON THE DIFFICULT POINTS IN THE OPERATION OF SHORTENING THE ROUND LIGAMENTS.

By WILLIAM ALEXANDER, M.D., F.R.C.S., Liverpool.

It is becoming daily more and more manifest that the difficulty of performance will be the great barrier in the way of the operation becoming popular. To myself it presents no difficulties, and it was only by hearing of and witnessing the difficulties of experienced operators at their first round ligaments that I became convinced of the obstacles to a tyro's success. My difficulties were overcome in the post-mortem room, and can better be overcome there in private and on the dead than on the living and before a critical audience.

The operation consists, as every one now knows, in cutting down on the external abdominal rings, in seizing the round ligaments that there protrude, in pulling these out so as to control and replace the uterus, and in stitching them thus shortened to the pillars of the ring. The first difficulty is to find the ring, and many surgeons stop half way in cutting down upon the tendon of the external oblique, being deceived by a strong aponeurosis that simulates the tendon. A hopeless search is here made for the ring and the ligaments, and strange conclusions are sometimes drawn at variance with anatomy. The tendon of the external oblique is so distinct and glistening a structure that the finding of it would have seemed to me an easy stage of the operation, had I not seen surgeons in danger of foundering in their progress to it. Having found the external oblique tendon anywhere near the spine, the finding of the external abdominal ring is an easy task to those who can recognise it when they see it. The skin, fat, and fascia can be pulled backwards and forwards until the external ring is seen, and if the tendon of the external oblique muscle is well reached, and lies clean at the bottom of the wound, no difficulty need be experienced. Having found the external abdominal ring, a thin fascia that covers it is to be cut through, and the round ligament springs out under the very eye of the operator. It is a rounded, reddish structure, covered with small vessels, having a nerve on its surface, a bunch of vessels behind and above, and is generally surrounded and embedded in fat. The greatest difficulty of the operation now confronts the beginner who has had no training in the operation, whether he be a clever, experienced surgeon or a newly-fledged medical man. The difficulty does not consist in obstacles inherent in the operation, but in the fact that the operator may not recognise the ligament when he sees it, or not sufficiently to isolate it from neighbouring structures. A mass containing the ligament is grasped and pulled, and it may, and often does, happen that in traction upon other structures the delicate ligament is destroyed by the forceps. When these other structures have been ascertained

not to be the ligament, the ligament itself is not to be found, and its external part is concluded not to exist in the anatomy of that body. Should the ligament pull out easily, and thus reveal itself after much teasing and tearing, it is not much wonder that such suppuration has afterwards occurred as to discourage the operator, and cause him to think the operation a dangerous one. The cutaneous structures should be boldly cut until the ring is reached, and the ligament should be isolated without any injury to it or the neighbouring structures, or unnecessary bruising by the finger or forceps.

Having placed the uterus in the required position by the sound, both round ligaments are pulled out until they control that position, when they are to be stitched to both the pillars of the ring by two moderately fine catgut buried sutures. The chafed extremity is to be cut off, and the unchafed part firmly stitched into the skin wound. It is absolutely essential that the ligaments should adhere strongly to the neighbouring structures, and their firm attachment by sutures is an excellent introduction to a close organic union. I like to avoid, and mostly succeed in avoiding, healing by granulation, but I look for, and am best pleased when I get, some adhesive inflammation in the wound. The small drainage tube prevents any danger of purulent collection, and consequent pyæmic infection. The after treatment consists in rest and patience till the ligaments have thoroughly united, and the uterus and broad ligaments have become thoroughly accustomed to their altered positions. Then the pessary should be removed, and the displacement may be considered cured.—*Medical Chronicle*, Aug. 1885, p. 372.

#### 104.—ON HYSTERECTOMY.

By THOMAS KEITH, M.D., LL.D., Edinburgh.

Ten years ago, when I published in the *Lancet* my first cases of supra-vaginal hysterectomy, I expressed a hope that sufferers from uterine fibroids would in time get as much benefit from surgery as those with ovarian tumours had already received. No one could then have thought that this change would come as quickly as it has done. At that time there was little encouragement to advise operation, even in the very extreme cases. Most of the hysterectomies were performed by mistake for ovarian tumours, and the results were almost uniformly disastrous. Thus, Sir Spencer Wells had at that time done thirteen operations, with a fatal result in ten of them; and as several had died within a few hours after operation from hemorrhage, the natural conclusion was that hysterectomy was not a legitimate operation for a disease that, as a rule, rarely shortened life. Little wonder, then, that the routine advice given to patients was to wait for the menopause.

The improvement, however, that has come of late years is not in the direction that was looked for—an improvement in the technical



methods of operating—but in a new operation altogether, the removal of the ovaries and tubes, to bring about the cessation of menstruation, which generally ends the active life of uterine fibroids. It is an operation full of promise, and, speaking for my own work, the result is more satisfactory every time that it is performed. The low mortality that accompanies it, a mortality that ought not to be greater than that of the removal of simple non-adherent ovarian tumours, will render interference by this means warrantable in a larger number of cases, and at an earlier stage. It will not, however, supersede hysterectomy altogether, for there are unfortunately some cases in which, even when got at, the ovaries cannot be separated from the uterine tumour without too great a risk. At present the position of the operation seems to be this,—that when interference is justifiable, the simpler method of removal of the ovaries is the one to be tried in the first instance, in all cases where the tumour is small and does not extend much above the umbilicus, or in all tumours under nine or ten pounds. In big tumours, this method is of doubtful efficacy, either as to its power of arresting menstruation or retarding growth, while the distance of the ovaries from the middle line renders the proceeding a more dangerous and uncertain one.

The proportion of cases of uterine fibroid in which interference of any kind is at any time warrantable is extremely small. It is not perhaps greater than five per cent. of all cases. I have no hesitation in saying, from what I know, that operations for fibroids are far too often performed, considering the fatal nature of the operation. At present there is a speculation abroad for abdominal section, and a woman with a movable tumour in her abdomen has, in these days, a small chance of escaping the said section. As the operation stands at present, its mortality is perhaps greater than that of any other surgical operation. It ought not to be undertaken without some strong necessity, for not one fibrous tumour in twenty gives the woman any trouble, or scarcely any, during the whole menstrual life, and a death directly from one is extremely rare.

The cases in which I think hysterectomy may be reasonably recommended are these:—

1. In very large rapidly growing tumours of all kinds in young women. By a large tumour, I mean one that completely fills the abdomen.

2. In all cases of real fibrous cystic tumours, if they can be removed. Also in cases of suppurating cystic tumours.

3. In most cases of œdematous fibrous tumour which are not cured by removal of the ovaries. These tumours grow to an enormous size, sometimes far larger than any ovarian tumours. I have seen them as large as 200 lbs. Sometimes quantities of red serum can be removed with much relief, and I have several times been

able by this means to carry patients over the menopause, when the necessity for further puncturing ceases.

4. In cases of large bleeding fibroids, where removal of the ovaries cannot be accomplished, provided that the patient is not approaching the menopause. In these cases, as a rule, though there are many exceptions, menstruation goes on much beyond fifty. I have never seen it go beyond sixty, though very frequently it is continued till fifty-four or fifty-eight years are reached.

5. In certain cases of tumours surrounded by much free fluid, the result of peritonitis, provided that the fluid shows a tendency to reaccumulate after two or three punctures. My experience is, that after two or three punctures the fluid does not collect, and it often disappears without interference. The simple serous exudation from oedematous fibroids is most capricious. When present to a great extent the tumour will diminish, and when the fluid does disappear, its absence may, from some change in the osmosis, be followed by an extremely rapid growth of the tumour. It must not be forgotten that long continued irritation of the peritoneal surfaces by large solid tumours is apt to be followed by degeneration of the peritoneum, of a sarcomatous or cancerous nature. The microscopic examination of the fluid will in such cases keep one from falling into error. While large healthy uterine fibroids were present, I have several times removed fluids swarming with cancerous elements, the source of which was found to be altogether in other organs affected with cancerous disease.

[The paper concludes with the detailed reports of ten successful cases of hysterectomy for fibroid tumour of the uterus. The fullness of these reports precludes their reproduction here, but they most certainly ought to be read by all who are practically interested in the matter in hand.]—*Edinburgh Medical Journal*, May 1885, p. 969.

#### 105.—ON THE METHOD OF PERFORMING THE OPERATION OF HYSTERECTOMY.

By J. KNOWSLEY THORNTON, M.B., C.M., Surgeon to the Samaritan Free Hospital, London.

[We take from an interesting paper by Mr. Thornton the following account of his plan of operating in cases of large uterine fibroids, with the after-treatment. In many cases removal of the uterine appendages is preferable, and for Mr. Thornton's opinion on this point see *Uterine Fibroids* in the "Synopsis" of this volume.]

A four-inch incision was first made through the parietes; I then introduced my hand into the peritoneum, and carefully examined the ovaries, tubes, uterus, and tumour, and, having decided that the case was not suitable for a mere removal of the appendages, I enlarged the incision sufficiently to allow the extraction of the



tumour and uterus, without unduly bruising the edges of the incision. The extraction of the mass was often much facilitated by screwing a nickel-plated corkscrew with a broad blade into the tumour, and using it as a handle. As soon as the mass with the ovaries and tubes was outside the abdomen, the latter were examined to see if they could be included in the wire of the serre-nœud along with the uterus; if this can be done, the operation is much shortened and simplified, and the after-progress of the patient is more likely to be rapid, as no stumps are then left inside the peritoneum. I was able to so include both ovaries and tubes in four of the thirteen cases, and one ovary and tube in another, in which I left one ovary and tube behind, as they were quite healthy, and it was easier to leave them than to remove them. In the remaining cases, it was impossible to include the broad ligaments in the wire; they were, therefore, transfixed on each side with a double No. 3 ligature, and the ovaries and tubes were tied off as in ovariectomy, a separate ligature being tied round each pedicle for security. A temporary clamp was then applied to the broad ligament on each side of the uterus, and the ligament divided down to the angle secured by the inner loop of the ovarian ligatures; thus the base of the uterine mass was cleared for the application of the wire. To prevent any portion of the cut broad ligament from slipping back while the wire was being tightened and screwed up, the free end of the wire was passed through the ligament just below the cut angle. After the wire had been screwed up, the pin for holding the stump in position was passed just to the distal side of the wire loop, and the tumour cut away. The ovaries and tubes were cut off, and their stumps allowed to drop back into the peritoneum, as in ovariectomy. The anterior pouch was sponged out, and the stump secured in the lower angle of the wound by a strong suture passed through the whole thickness of the abdominal wall and peritoneum, this suture being at once tied. The peritoneum was cleansed in the usual way, and the remaining sutures were introduced and tied. No drainage was used in any of the cases. The upper part of the abdominal incision was dressed with a carbolic gauze dressing, terminating about an inch above the uterine stump, and the straps at once applied to this upper dressing. The stump was then carefully packed round with dry carbolic gauze placed under its margins, and under the pin and stem of the serre-nœud; the stump was then clipped down, and dressed with a little solid perchloride of iron, care being taken to avoid any moisture from the melting iron running over the sides of the stump. The usual carbolic gauze and straps over the stump and lower portion of the wound completed the dressing. A folded towel was placed over the strapping, to absorb any moisture during the first few hours after the operation, and the flannel-bandage was pinned over all.

The lower strapping and dressing was changed under the spray generally on the second or third day, and every third day afterwards, the upper dressing often remaining undisturbed till the end of the week, when the sutures were removed. At each dressing of the stump, the wire was tightened with the screw, the stump clipped and covered with finely powdered iodoform; the pin and wire were removed about the end of the second week, and the stump again covered with iodoform. A deep granulating hole usually remained, which was from two to three weeks more in filling up.

I have more than once stated my opinion that hysterectomy, with the opening of the uterine cavity, is not a test-operation for Listerism, because the mucus in the opened cavity contains the causes of putrefaction, and is necessarily left in the centre of the stump. Great care is required when cutting away the tumour to avoid this mucus, or the mixed blood and mucus, running down and fouling the wound and peritoneum. This danger may be avoided by packing carbolised sponges all round the stump up to the constricting wire, and carefully cleansing away the mucus directly the cavity is opened. During the subsequent steps of the operation, a small carbolised sponge can be kept over the cut cavity; and, when once the stump is fixed in position, the danger of fouling the wound is pretty well ended. The solid perchloride dries and mummifies the stump, which is, moreover, surrounded by dry carbolic gauze, and then, at the first dressing, the area of putrefaction is thickly covered with iodoform. Of course, the causes of putrefaction may and do remain in the portion of the uterine cavity deep in the stump, and, as the distal portion of the latter sloughs, it sooner or later becomes permeated by putrefaction; but this is a slow process in the dense thick uterine tissue hardened with perchloride of iron, and, long before there is any danger of its spreading to the wound generally, the peritoneum is thoroughly sealed. The dangerous time is when the pin and wire separate, or are cut away; for then, as the stump sinks back, little tears or cracks occur in the granulation-tissue round its edges, and absorption of putrid matter may take place, sharp rises of temperature, even accompanied by chills, showing the reality of the danger. The same thing was occasionally troublesome and even fatal during the separation of the clamp on the ovarian pedicle in the old days. Here, again, however, perchloride of iron is very useful; for if it be carefully applied to any points which bleed, it seals the cracks against absorption, and the powdered iodoform forms a paste with the blood and serum, and completes the protection. I think, then, that Listerism with the spray is a great safeguard in hysterectomy, for it enables us to perform an aseptic operation, and protects the patient during the early days, and until the peritoneum is sealed. The parts around the stump



eventually become septic, but, with such care as I have indicated, this is of small moment when the main parts of the wound have healed. When it is impossible to bring the stump quite out of the wound with the pin, and it sinks back partly into the peritoneum, it is almost impossible to prevent putrefaction of the peritoneal wound; and if I were certain in any case that this would happen, I should not attempt perfect Listerism, but should make the whole operation as dry as possible, and use a Keith's glass drainage-tube.

—*British Medical Journal*, May 23, 1885, p. 1035.

#### 106.—ON THE MODERN TREATMENT OF UTERINE MYOMA.

By LAWSON TAIT, F.R.C.S., Birmingham.

I desire once more to draw the attention of my professional brethren to the modern, and I would add the rational, treatment of uterine myoma. The necessity for this repetition was most fully forced on me by an incident which occurred only three short weeks ago in my consulting-room, an incident which would have been ludicrous had it not had a somewhat ghastly significance.

Two ladies from a northern city were shown in by my servant. They were clearly sisters. One had a terribly anæmic face, whilst the other had the appearance of robust health. They were respectively 38 and 36 years of age; and, to my surprise, it was the younger and healthy-looking woman who was announced as the patient. She had come to consult me about an abdominal tumour, which I found to be a soft myoma, reaching almost to the ensiform cartilage. During the simple examination, the elder sister became so ill that I had to supply her with a stimulant and send her out of the room. After my interview with the younger sister, the elder asked that she also might consult me, though she had no intention of doing so when they came. I found her condition due to a small bleeding myoma, for which she had been treated by one of the most eminent gynaecologists by tonics and pessaries for some years without the slightest benefit. The younger had seen many specialists, and had been advised to let her tumour alone; and, therefore, I had in my room at the same time two women, sisters, and both in the process of dying from a disease which is said to be not fatal to any extent, to be less fatal than the operations performed for its cure, to constitute in fact merely "a lump in the womb of no consequence whatever."

In my opinion, these two women afforded examples of a state of professional ignorance and prejudice which is a disgrace alike to the time in which we live, and to the condition at which the art and science of surgery has arrived. With this expression of view, the mildest I can coin, I shall proceed to show why I think that both of these women ought to have had their uterine appendages removed years before the period of their first interview with me.

These two women give perfect illustrations of the different ways in which uterine myoma kills, the elder by exhaustive bleedings, and the other by the rapid growth of a deadly tumour. Neither of them can, from the record of her past history, by any possibility live five years longer if left alone; and both, by the delay of proper means for relief, have incurred an enormously enhanced risk when these means come to be applied.

The first point of my thesis is to show that removal of the uterine appendages for myoma, when properly performed, is not a fatal operation, but one with hardly any mortality at all, even when the tumours are large, and when the patients are brought almost to death's door by hemorrhage. I therefore append a list of 58 cases in which I have operated since January, 1884, without a single death; and I select that period, not because I had a heavy mortality before then, but because it is the latest date up to which my practice has been published in detail. In the series published up to the end of 1883, there were 50 cases of removal of the uterine appendages for myoma with two deaths, so that my modern experience gives a series of 108 cases with two deaths, and my belief is that the real mortality of the operation in experienced hands is not more than 1 per cent.

[In the list of cases (which we omit) the residence and the age of the patient are given, with the name of the medical attendant, the date of the operation, and the result.]

The list which I now submit includes my first 50 cases of this operation where recovery took place, with a detailed statement of the results up to a date as late as I have been able to obtain information. For the statements concerning a few of the cases, I am solely responsible, as they are drawn from personal interviews with the patients; but in every instance where it was possible, the statements are made on the evidence of a practitioner who sent the patient to me for operation, or was associated with me in the responsibility of the case, or under whose cognizance she has been since the operation. On some of the more striking cases, and on some salient features, I make brief comments; but, in the main, the evidence is allowed to speak for itself.

Here, then, we have a series of cases, the earliest of which is nearly 13 years old, and the latest two and a half. Of the 50 cases, we have failure in only two instances, the details of one of which I have already published. It was a case of cancer of the body of the uterus, which I mistook for a myoma, or a myoma which became cancerous after the operation. Neither of these alternative suppositions, in the least, can now form an argument against my operation; mistaking malignant for non-malignant tumours is constantly occurring in every department of surgery, and I cannot expect to be free from it. In the second case, menstruation has not been arrested, and the tumour has gone on growing.



In a paper I presented to the Royal Med. and Chir. Society of London, and by them refused publication, which was then published in the *American Journal of Med. Sciences* for January, 1882, I summarised my conclusions upon several points. The first of these was as follows: "That, as far as its primary results are concerned, removal of the uterine appendages, for the arrest of intractable uterine hemorrhage, is an operation which is as easily justified as any of the major operations of surgery." I can now emphasise this conclusion thoroughly, and extend it. I say that the primary mortality of this operation is so low, that it can be justified far more decidedly on that score than any other of the serious operations of surgery.

The second conclusion was to the effect: "That, so far as its secondary results are yet seen, it is an operation which yields abundant encouragement for its further trial." Here, again, the experience of four years' longer interval enables me to speak far more decidedly than I did at first. The secondary results of this operation are as brilliant as those of any other operation in the whole realm of surgery with which I am acquainted. It saves life and relieves suffering, quite as emphatically as the removal of ovarian tumours. Of the fifty cases, of which I now give the secondary results, we can only point to two failures; but, even in these, a considerable amount of relief was obtained.

The final conclusion was: "That the whole subject was one well worthy of more study, and should not be made the subject of premature and hostile conclusions." Certainly these hostile and premature conclusions were made and very widely promulgated; but the proofs which I have advanced in the present paper must be sufficiently conclusive, in the minds of the intelligent and unprejudiced members of my profession, to justify me in claiming that my original conclusions are completely established; and that, in this operation, I have succeeded in making a substantial addition to our means of relieving suffering and saving life.

The view which is so constantly asserted, that uterine myoma is not a disease which is at all fatal, and therefore deserving of any kind of surgical treatment, is absolutely contradicted by the fact that everyone in whose practice the disease occurs to any large extent is found to be engaged in discussing the alternate proposals of enucleation of the tumours, or the performance of hysterectomy. Thus, my friend and former master, Dr. Matthews Duncan, will be found, in many of his writings, to be engaged in discussing, from time to time, the relative merits of enucleation and hysterectomy, both of which operations he has attempted himself. He estimates that the mortality of enucleation is about 50 per cent., whilst he debits hysterectomy with a mortality of 70 per cent. With both of these conclusions I entirely concur. Enucleation in my own hands, as in the hands of everybody else, has had a mortality so terrible that

I absolutely condemn it, and entirely refuse to continue its practice. Hysterectomy, on the other hand, has not been quite so bad. My mortality, with the improved methods and improved clamps, is about 20 per cent. ; whilst the attempts that I have made to pursue what is theoretically the best method of dealing with the uterine pedicle—the intraperitoneal plan—have been extremely unfortunate. I therefore have unhesitatingly condemned hysterectomy, and I never should perform it if I possibly could avoid it. But it is clear from what I have said that there are certain cases in which the performance of the operation of removal of the uterine appendages does not arrest the growth of the tumour, and these cases must subsequently demand the greater operation. Other cases will also demand it where the tumour has grown after the menopause ; in such, of course, removal of the appendages being altogether out of the question. But what I contend for is this: that if the removal of the appendages were performed on patients early in the history of these cases, as it ought to be, very few indeed would arrive at the necessity for the operation of hysterectomy.—*British Medical Journal*, Aug. 15, 1885, p. 287.

#### 107.—ON FIVE CASES OF PELVIC HÆMATOCELE TREATED BY ABDOMINAL SECTION.

By FRANCIS IMLACH, M.D., Surg. to Liverpool Hosp. for Women.

Five cases of pelvic hæmatocele having chanced to come under my care in rapid succession for surgical treatment, I have narrated them in brief from my notes, while the incidents of each case are still vivid in my recollection. All the operations were performed in the Hospital for Women, with the assistance of my colleagues. That what is popularly termed “removal of the uterine appendages” implies removal of healthy ovaries and tubes, has been suggested in such fashion that I venture to think the narration of a few illustrative cases, though perhaps tedious, will show the contrary more clearly than would any long argument.

*Case 1.*—N. C., aged 33, married twelve years, had no children, but a miscarriage four months after marriage, since which she had been almost a constant invalid. Menstruation was sometimes scanty, sometimes profuse, but always painful ; the period previous to operation lasted fifteen days. During the last eight or ten years she had occasionally been brought by rail from Sutton, and carried on a stretcher to various practitioners in Liverpool for consultation ; and, five years ago, the cervix was slit bilaterally, with considerable temporary relief. But, for the last twelve months, she had suffered great agony, and has sometimes felt a painful lump in the right hypogastrium. The abdomen was found to be tumefied, the uterus fixed and enlarged to four inches, and behind it, in Douglas's space, was an indistinct painful mass, not blocking the pelvic cavity,



but rising, as was made evident by bimanual examination, into the abdomen. On Oct. 28, 1884, abdominal section was performed. When the peritoneum was opened, the omentum had not its usual clean appearance, but was stained dark red, and a somewhat thick brown fluid oozed out of the cavity. This having been mopped out, a quantity of free dense old clot was removed from the pelvic cavity. The Fallopian tubes, which were considerably distended and packed deeply in the pelvis, were next drawn up, previously to ligature. But they were of such soft structure, and so fixed, that the right one was torn away from all its attachments except its narrow insertion into the uterus, and the left one came away in my hand. Not much difficulty, however, was found in securing the bleeding points. The right atrophied and cystic ovary was also removed, but the left one could not be distinguished. Dense round masses of old black blood-clot, about the size of the cork of a beer-bottle, were found within the tubes. A glass drainage-tube was employed for three days; she made a very satisfactory recovery, and left hospital strong and well upon November 25th.

*Case 2.*—E. G., aged 38, married eleven years, had three children, the youngest being  $3\frac{1}{2}$  years old. She had been unable to attend to household work for the last twelve months; was pale and obviously in ill-health; walking was impossible without aid; menstruation was profuse, recurrent every three weeks, and was always painful. The cavity of the uterus measured three inches, and the organ was pushed forward to the pubes, and its mobility restricted by two fluctuant masses bulging posteriorly into Douglas's space. On Nov. 4, abdominal section was performed, in the presence of Drs. Grimsdale, T. B. Grimsdale, Craddock, and the staff. When the peritoneum was opened, the abdomen was found to be partly filled with thick dark bloody fluid, which was mopped out with numerous sponges. Then half a pint or more of dark firm old blood-clot was removed from the pelvic cavity by the fingers, and both ovaries and Fallopian tubes were ligatured and removed. The ovaries were slightly enlarged. Both Fallopian tubes were dilated, and contained dark fluid blood. Their mucous and muscular walls were thickened, and their fimbriated extremities were expanded, thickened, and filled and surrounded with old blood-clot. The fimbriated extremity of the right tube was deeply excavated, and embraced and partially contained a large dense old clot. There was a recent rupture of the left tube near its middle. The patient left hospital on November 28th, completely cured.

*Case 3.*—S. T., aged 26, married when 17 years old. Her first husband, by whom she had two children, died when she was 21. She married again at the age of 24, but had since had neither child nor miscarriage. For the last eighteen months, menstruation had been both profuse and painful, and the discharge had continued without intermission during the last five weeks. Double

hydrosalpinx, moderate in extent, owing to monthly rupture, was diagnosed; but abdominal section, on November 8th, showed the exact condition of affairs. There was dark fluid blood, like menstrual discharge, and clot free in the abdominal cavity. There was double hæmatosalpinx, and both fimbriated extremities were dilated, and formed abscesses. The left one contained a large recent corpus luteum—a fact only discovered after ligature and removal of both uterine appendages; and both ovaries contained cysts, with thin grey pus, though neither was wholly disorganised. That an entire corpus luteum may escape from an ovary, may be clutched by the fimbriæ of the Fallopian tube, and become the core or cap of an abscess of the dilated extremity of the tube, is a link in the chain of events in diseases of the uterine appendages which has not hitherto, I believe, been recognised. The first instance in which it came under my observation was in the case of a young woman, aged 27, on whom I performed abdominal section on September 2nd. But as there was no effusion of blood into the abdominal cavity, it is not included in this series, and its full description will appear elsewhere. S. T. went home on November 26th, fully satisfied with the result of her treatment, for she was able to enter immediately into the active cares of her household and shop, and remains well to this day.

*Case 4.*—S. C., aged 31, married seven years, had one child three years old; no miscarriage. Though she had an easy labour, menstruation had since then been very painful, and she had gradually become unfit for work, sleepless, and broken down in health. The last menstruation ceased October 31st. The uterus measured three and a half inches, and had a large, soft, fluid tumour behind it. Abdominal section being performed on November 14th, after a quantity of dark fluid blood had been mopped out with sponges, the right Fallopian tube was felt above and behind the uterus, greatly distended. Five ounces of serum, which almost entirely coagulated on cooling, were aspirated from the tube, and then its fimbriated extremity, expanded and thickened with chronic inflammation, and the right ovary, two inches in diameter, and containing two large purulent cysts, were drawn up with difficulty, owing to the density of the adhesions from Douglas's space. As in the other cases, the free extremity of the tube was blocked with blood-clot. The venous oozing was checked by packing the pelvis with sponges, and the use of a glass drainage-tube prevented further anxiety. The left ovary and tube, being healthy, were not removed. The patient made an uninterrupted recovery.

*Case 5.*—T. L., aged 25, married seven years, had three children, the last born three years ago; all the labours were difficult; she had prolapse of the womb after the second. Since the last confinement, the uterus had not been prolapsed, but she had suffered from



violent "bearing-down" pains, had had painful menstruation, and had been unfit for active employment. The uterus measured three and a half inches, and behind it was a tumour doubtfully fluctuant. On November 27th, abdominal section was performed. The omentum was adherent over the pelvic brim. When pierced by the fingers, dark fluid blood welled up, and was mopped with sponges. Both tubes were greatly hypertrophied, and filled with old dense blood-clot; both fimbriated extremities were expanded and inflamed, the right one being partly spread over a dense clot of the size of a goose's egg. The ovaries were atrophied. The cæcum and appendix were drawn down into the pelvic cavity, and their adhesions to the right tube proved somewhat embarrassing. The left tube appeared to have insinuated itself behind the rectum, and was with difficulty detached. After removal of both uterine appendages, a small rupture of uterine tissue, near the cervical junction, was discovered, and there was considerable bleeding in Douglas's space. The abdominal incision was enlarged from one inch and a half (its ordinary length) to three inches, so as to enable me to stitch the uterine tear, and to ligature several bleeding points deep in the pelvic cavity. The peritoneum was raised from the posterior portion of the left broad ligament, like the epidermis of a blister, but it did not bleed. A long glass drainage-tube was used for two days, and then a short one for twenty-four hours. During the operation, a quantity of blood flowed into the vagina, which was probably due to the squeezing of the tubes during their withdrawal. The patient has made an excellent recovery. She relished her soup on the second day, and, though she has not yet (December 5th) been allowed to rise, the pulse and temperature have been normal for many days, the incision has practically healed, and she has lost all pain.

*Remarks.*—In none of these cases was there evidence of tubal pregnancy. The extreme collapse, which is, perhaps, the most significant symptom of rupture in this condition, was never noticed. It is, of course, possible that a small disintegrated foetus, or a corpus luteum, may have been a pathological factor in all of them. There was also no history of illness commencing with an abrupt cessation of the menses, a symptom so often alluded to in textbooks. In all except the fourth case, there had been long enduring menorrhagia. Bernutz and Goupil (*Diseases of Women*, Sydenham Society, vol. 1, pp. 180-188) have narrated, from their personal experience, five cases remarkably similar to mine, occurring in women between the ages of twenty-one and twenty-eight. In all of them, "death took place either suddenly or after a short illness;" but the symptoms and the post-mortem examinations showed that peritonitis, and not internal hemorrhage, was the immediate cause of death. The subsequent history of my six cases shall be faithfully reported.—*British Medical Journal*, May 16, 1885, p. 983.

## 108.—ON SACCULAR DILATATION OF THE URETHRA.

By LAWSON TAIT, F.R.C.S., &c., Birmingham.

In October, 1875, I published the following case in the *Lancet*.—Mrs. B——, mother of a large family, had suffered for many years from a protrusion, about the size of an egg, from the vulva, which was excessively painful. She passed large quantities of foetid pus from the bladder. The protrusion looked like an ordinary cystocele, save that it was quite irreducible, was very hard, and, when it was firmly pressed, a large quantity of foetid ammoniacal pus escaped from the orifice of the urethra. If this pus got on the fingers, it made them smart. The sound readily passed into the cavity of the protrusion from the urethra. It was clearly, therefore, not an ordinary cystocele, but probably a sacculatation of the urethra, and the only benefit likely to be obtained was by its removal. She was placed under ether, and the lower half of the protrusion was removed by a cut of the scissors; and this opened into a large cavity lined with thickened corrugated mucous membrane. It had an opening into the urethra large enough to admit a No. 9 or 10 catheter; the opening being situated in the lower wall of the urethra, and about half-way between its orifice and the entrance to the bladder. The whole of the mucous lining of the sac was removed, and the vaginal mucous membrane was closed over the cavity by deep sutures. The wound healed rapidly, and the cure is now complete.

In May, 1876, M. Gillette of Paris published, in the same journal, a case very similar in external appearance, and probably in its relations to the urethra; but he did not define accurately, in his description of the operation, the relations which were discovered in the entrance to the sac from the urethra. Although I opened correspondence in the journal, I did not elicit the information which was necessary in order to determine whether M. Gillette's case was precisely like my own.

Until the case that I described in 1875, I had never seen anything of this kind, nor had I met with any description of it; and, until the beginning of this year, I had never seen another case like it, nor have I come across, in my readings, any allusion to further experiences of this peculiar condition, save that of M. Gillette. But, as a curious illustration of the strange series of coincidences which are constantly occurring in surgical practice, since the beginning of this year I have had no fewer than three cases precisely similar to that which I previously narrated. The symptoms in all three cases were precisely alike. The patients were constantly troubled with an escape of foetid ammoniacal purulent urine, causing much irritation, discomfort, and annoyance from the smell. The escape did not occur during micturition—that is to say, the urine passed voluntarily was usually perfectly clear and sweet;



but, either with the least strain of micturition, or pressure, or on a sudden change of position, and at other times inexplicably, this objectionable foetid urine escaped without the patient knowing anything about it, until she found herself wet and uncomfortable. When examined, a tumour, apparently continuous with the neck of the bladder, was found to present itself between the lips of the vestibule, closely resembling an ordinary cystic vaginocoele, save that it was tender on pressure. When it was pressed, the characteristic foetid and purulent urine escaped by the meatus. When a catheter was passed into the bladder, keeping the point well up on the roof of the urethra, it passed easily into the cavity of the bladder, and perfectly clear urine was withdrawn. When, on the contrary, the point of the catheter was passed, with slight pressure, along the floor of the urethra, it entered the cavity of the tumour, and the putrid contents of the latter escaped. The patients were respectively of the ages 23, 55, 32; and were operated upon the dates February 10th, February 13th, and March 27th. The details of their operations and all the conditions found are practically identical, save that, in the second case, the tumour was quite as large as an egg, whilst in the first and third it was not much more than half that size. The proceedings that I adopted were precisely those described in the *Lancet* for my first case. I put a catheter in the urethra, in order to display the aperture and to prevent injury of the canal. An elliptic piece of the protrusion was cut away, so as to completely open its cavity, and perhaps about half its substance removed. The thick and velvety mucous lining was then carefully dissected off as far as the aperture leading into the urethra, which in none of the cases was larger than just to admit the catheter. Five silver wire stitches in the second case, and three in the other two, were then introduced, by a handled needle, right across from one side to the other, and deep enough to embrace the whole of the structure except the urethra, the central stitch always reaching across the aperture into the canal. The proceedings were, in all three cases, accompanied by a very remarkable amount of hemorrhage, altogether disproportionate to the importance of the operation. The catheter was retained in the bladder five or six days, and the stitches were removed on the eighth and ninth, and all three patients went home in twenty days perfectly well.

I have had the curiosity to hunt up the patient whose case is recorded in the *Lancet*, October, 1875, and am gratified to find that there has been no return whatever of the trouble, and that she has remained perfectly cured by the operation.

In M. Gillette's paper, he alludes to several cases in which general, or what may be called ampullary, dilatation of the urethra has been met with, requiring operation. But, so far as I know, nothing of the kind has ever occurred in my own practice. The

only dilatations of the urethra that I have seen are the four now placed on record; and the fact that in every one the feature of an extremely small aperture communicating between the sac and the urethra was established, makes it clear that, in these four cases, and probably, I may also say, in M. Gillette's as a fifth, we have a distinct form of disease, the origin of which is open to one of two explanations. The first, and I think the most likely, of these is that there is, as the origin of this condition, an error of development by which a small offshoot of the urethra, like a diverticulum of intestine, is the result of faulty union of the primal folds, and that this becomes of pathological importance when women become accustomed to those errors of urination to which they are all more or less addicted. The second explanation is that this urethrocele is formed by the union between the urethra and a cyst of pathological origin in the roof of the vagina. But I am disposed to regard the former as the more likely of the two, from the extraordinary similitude which all my four cases have presented, and from the fact that I have never seen any cysts at all like them in a position that such a communication with the urethra might take place.—*British Medical Journal*, May 16, 1885, p. 982.

#### 109.—LAPAROTOMY COMPARED WITH OTHER OPERATIONS FOR THE TREATMENT OF PERI-UTERINE ABSCESS.

By CHRISTIAN FENGER, M.D., Professor of Pathology, Chicago Medical College, U.S.A.

When a peri-uterine abscess points somewhere in the vagina around the lower part of the uterus, no surgeon would, of course, think of doing anything, but opening the abscess, inserting a drainage tube, and, by washing out, endeavouring to effect the closure of the cavity. But in some cases the opening into the vagina is just as ineffective as a spontaneous opening into the rectum. In obstinate cases of this kind, laparotomy, at a later period, will have to be performed.

There is, however, no doubt that secondary invasion of septic poison, when the abscess is opened from the vagina, is much more difficult to prevent than invasion into the abscess from the abdominal opening. It is only in this way that we can account for the difference in the course of the after-treatment of peri-uterine abscesses opened through the vagina and through the abdominal cavity. A difference that Lawson Tait rightly calls attention to as being decidedly in favour of the abdominal operation. Here the abscess closes more quickly, and the course of the after-treatment is much less febrile than in the vaginal operation.

Sometimes a peri-uterine abscess will point into the rectum, sufficiently low down to permit of an opening here. It does not seem probable that the access from the rectum will be very



promising, as effective drainage is next to impossible; but the cases of cure by spontaneous opening into the rectum evidently make an operation here permissible, and perhaps advisable, but only as a trial. If the abscess does not retract within a reasonable time, other measures must be resorted to.

It is needless to state that if a parametric abscess points anywhere along the iliac fossa, it should be opened and drained from this point.

When a circum-uterine abscess does not point downward, and, in fact, does not point anywhere, it is then the surgeon's task to find the safest way into the abscess through a smaller or larger amount of surrounding tissues.

We shall first consider the vaginal operation.

When so eminent an authority as Schröder, of Berlin, advocates this method of reaching a high peri-uterine abscess, there must be cases in which this operation is advisable. From a general point of view, an extra-peritoneal outlet of the abscess through the vagina would seem to be safer than laparotomy, upon the same grounds as a vaginal hysterectomy is safer than Freund's abdominal hysterectomy, and Schröder's successful operation vouches for the method.

At the same time, I firmly agree with Lawson Tait, that there are some grave objections to the vaginal operation. In the first place, a high seated peri-uterine abscess is difficult to reach. It is difficult to work with safety two or three inches above the introitus of the vagina, in tissues that are immovable, and where the parts cannot be drawn down toward the operator. These difficulties are, of course, of less importance in the master hands of an operator like Schröder, but increase in significance for less experienced surgeons.

But the operation through the vagina is more or less an operation in the dark. We may be dissecting up along the posterior surface of the neck of the uterus, and may open into recesses of the peritoneal cavity between the abscess and the uterus. Further, it might be easy in this place to open into the rectum.

Another danger, especially in abscesses between the two layers of the lateral ligament, might easily arise from the rupture of the large uterine vessels running in the wall of the sac. It would be exceedingly difficult, and I should say next to impossible, under such circumstances, to secure and ligate these vessels, the point of ligation being so high up, the working space so small, and the tissues so immovable.

All these objections and dangers we do not encounter in laparotomy. We can see distinctly, and recognise with our own eyes, every particle of tissue we have to divide. The large uterine vessels, if divided, can easily be taken up and ligated. There is no risk of having any communication between the abscess and the peritoneal cavity, which we cannot either close up or drain.

If the laparotomy lasts longer, and gives more technical work to the surgeon, it seems to me that these objections are fully balanced by the advantage of not being obliged to operate in the dark, of not having to battle with enemies that we cannot see, and consequently cannot guard against.

But these are not the only advantages of laparotomy, as compared with the vaginal operation. The free access to the whole interior of the abscess cavity has also to be taken into account. By laparotomy, the abscess is laid open to about the same extent as a tubercular peri-articular abscess. We can examine the whole interior of such a cavity, and scrape off, or remove by other means, whatever objectionable material we may find, cheesy matter, tuberculous tissue, fungoid granulations—since we can see clearly every place where the instrument is applied, without any danger of going through the abscess wall into any surrounding cavity or organ.

It is more than possible that this free access to the abscess wall has something to do with the speedy recovery subsequent to laparotomy, as compared with the vaginal operation.

But, of course, there will always be connected with laparotomy the inherited dread of opening that ominous peritoneal cavity. Modern surgery, however, is making steady progress in diminishing these dangers. Thus, the dread, as well as the safety, of the patient, will, to a great extent, rest in, or depend upon, the care and skill of the operator.—*Annals of Surgery*, May 1885, p. 418.

#### 110.—ON PUERPERAL ECLAMPSIA, AND ITS TREATMENT.

By ROBERT A. MURRAY, M.D., New York.

Puerperal eclampsia, while not frequent, is one of the most fatal complications of pregnancy. Lusk estimates, from an examination of the mortality statistics of the city of New York, that one death in seven hundred confinements is due to this cause. Comparing the deaths from eclampsia with those from all causes in the puerperal state, the proportion is one to eight. Spiegelberg estimates the occurrence of convulsions in childbirth as one to five hundred. Eclampsia can occur at any time in the course of pregnancy or the puerperal state, though it is rare in the first half, and seldom seen before the seventh month.

Most frequently the eclampsia occurs during labour, though Legroux has seen it on the fourteenth day, Lumpe on the twenty-fourth, and Simpson in the eighth week, after labour. The first convulsions give an idea of their probable recurrence and severity, though they may become so frequent as to make an estimate of their number impossible. Albuminuria may or may not be present to indicate the renal trouble, though they are frequently associated.

Dr. J. C. Lever, in "Guy's Hospital Reports," 1842, was the



first to draw attention to the association of albuminuria and puerperal convulsions. In ten cases the urine was examined; albumin was found in nine cases; in the post-mortem made on the tenth case, meningitis was found to be the cause of death. These observations were confirmed by Simpson, Ganod, Delpech, Cohen, Devilliers, and Regnault. From these cases he drew the conclusion that the convulsions in eclampsia, being the same as those occurring during Bright's disease, must arise from the same cause: the retention in the blood of the excrementitious matter of the urine—urea.

Spiegelberg thus sums up as to the etiology and pathology of eclampsia. 1. That eclampsia proceeds from uræmic poisoning in consequence of renal insufficiency, the immediate attack being due to suspension of the renal secretion from disturbance of the renal circulation by vaso-motor spasm. 2. Eclampsia without albuminuria belongs to another class, and is epileptic in origin. It is due to reflex stimulation of the vaso-motor and convulsive centres. The attacks are infrequent and seldom fatal.

Convulsions occur more commonly in primiparæ than in multiparæ, especially in elderly patients with a first pregnancy, in twin pregnancies, in contracted pelves, in prolonged and difficult labours, and in the illegitimately pregnant. Epidemically, they may occur in consequence of atmospheric conditions (Fordyce and Barker).

Professor Halbertsma, of Utrecht, deduces:—1. That the facts observed did not permit his recognizing a reflex contraction of the renal arteries as the cause of albumen in pregnant women. 2. Albuminuria in pregnant women was specially observed when there was a want of proportion between the size of the gravid uterus and the abdominal cavity. 3. The cause of the albuminuria in pregnant women was, in the greater number of women, the tension and compression of the uterus.

The diagnosis of puerperal eclampsia is to be made from epilepsy, hysteria, apoplexy, the convulsions of acute anæmia, and alcoholism. The symptoms of uræmia serve to diagnose from all other conditions. In eclampsia, besides this, the temperature rises, there is no cry as in epilepsy, no paralysis as in apoplexy, no habit as in hysteria, and the patient is not so easily aroused after the convulsion. Again, eclampsia is generally arrested on the birth of the child.

The prognosis is always serious. Dohrn reports in 747 cases 29 per cent. of deaths. Hofmeier reports out of 104 cases 32 per cent. Braun had a mortality of 26 per cent. in 73 cases. Spiegelberg states that one out of three die who are attacked, and the mortality is greatest in the first pregnancies in the early months, and when complications of the lungs or heart are present.

More than one half of the children die from uræmic poisoning

by the mother's blood, and by carbonic-acid poisoning from the compression of the child by the uterus. The eclampsia terminates by the restoration of the renal function while the attacks are held in abeyance by depresso-motor agents; by the expulsion of the foetus, when the attacks usually cease. Again, the patient may die from asphyxia during a severe convulsion, or by exhaustion of the nervous system, or, lastly, by septic and inflammatory troubles, to which they are very liable.

In the treatment of eclampsia, prophylaxis will prevent the larger number of cases from becoming serious. The skin being kept active by warm baths; the bowels regulated by saline cathartics; the mild, unstimulating diuretics, as the acetate, bitartrate, and citrate of potash in some of the alkaline mineral-waters, Vichy, Seltzer, &c., with relief of abdominal pressure by a bandage—will accomplish much. The use of the tincture of the chloride of iron, both for its diuretic and tonic properties, in full doses, seems to combat the anæmia and the anasarca. A milk diet should be maintained for even months, and meats should be avoided. Cerebral symptoms should be controlled by the use of chloral and the bromides in full doses, gr. xx to xxx of each, by rectum or by mouth, if emesis is not present. The drastic purges—*elaterium*, *croton-oil*, and the *pulv. jalap. co.*—in full doses, to produce watery evacuations, relieve the blood, and tend quickly to restore the renal function. If these measures do not suffice, premature labour should be induced promptly.

At the time of labour the rules for treatment are mainly those laid down for the treatment of uræmia apart from the pregnant state. Spiegelberg concludes that they are: To endeavour first to restore the function of the kidney; and then, if the renal insufficiency and the convulsions persist, to diminish arterial tension; and to diminish to the fullest extent the irritation of the vaso-motor and convulsive centres. This is effected most surely, according to him, by bloodletting, narcotics, and, if the patient is in labour, by its rapid completion. Eight to sixteen ounces should be drawn from the arm. By the rapidity of its action in reducing arterial excitement, by its relieving the congested kidney, by deadening the excited vaso-motor nerves, and indirectly favouring absorption, it furnishes the first resource in eclampsia. After this, and to prolong the effect, chloral and the bromides may be used. *Veratrum* has been proposed by Dr. H. Fearn, of Brooklyn, N.Y. He recommends the tincture in fifteen drops to teaspoonful doses repeated every fifteen minutes till vomiting sets in, or the pulse becomes soft. Kenyon reports two cases treated successfully. What effect the use of this drug has on the infant mortality has not yet been determined.

Chloroform should be used only to assuage the pain and excitement of ineffective pains, and should not be pushed to full narcosis



unless convulsions are imminent. By relaxing the muscular tissues, cervix, and perineum, it allows of more rapid delivery; and during operative procedures, as catheterisation, expression of placenta, use of forceps, and version, it should always be employed, if not contra-indicated, as convulsions are frequently begun by reflex irritation at the time of operation.

Premature labour in eclampsia should not be left to the position of a last resort; if this be the case, many patients will assuredly be lost who might be saved. Premature labour adds little to the danger when done under chloroform, by catheterisation of the uterus, dilatation of the cervix, by Barnes's dilators, whereby no harm is done to the genital canal; and delivery by the forceps affords absolutely the most sure guarantee that the convulsions will cease and the lives of mother and child be saved. Braun declares that he has seen but one patient with eclampsia before the fourth month saved where abortion had not taken place.—*New York Medical Journal*, May 16, 1885, p. 549.

#### 111.—THERAPEUTIC USE OF SANTONIN IN AMENORRHŒA.

By WALTER WHITEHEAD, F.R.C.S., F.R.S.Edin., Surgeon to the Manchester Royal Infirmary.

At the risk of being regarded premature, I wish to attract early attention to the therapeutic value of santonin in the treatment of amenorrhœa, especially when associated with chloro-anæmia.

Some years ago, during my attendance upon a young lady of seventeen, suffering from an obstinate ingrowth of a toe-nail, it was incidentally mentioned that the patient had symptoms suggestive of worms. I prescribed ten-grain doses of santonin to be taken for two consecutive nights, and to be followed each morning by a seidlitz powder. No worms, however, made their appearance, but a few days afterwards I was casually told that menstruation, which had been in abeyance for several months, had again taken place, and in a much more healthy manner than formerly. The coincidence did not impress me at the time, and I never for a moment supposed that the reappearance of the catamenia had the most remote connexion with the two doses of santonin. The subject did not cross my mind again until upwards of twelve months afterwards, when one day, whilst prescribing for a young girl suffering from ozæna, I was forcibly struck with her chloro-anæmic appearance. Influenced by some impulse—"the association of ideas" I suppose—I ordered santonin in the same manner and in the same doses as in the previous case, and, much to my surprise I must confess, with the same results. I have frequently since administered santonin in amenorrhœa with almost universal success, and in many cases after the ordinary remedies, including the permanganate of potash, have been tried in vain. I

must admit that I have not had an opportunity in any of my cases to investigate the concurrent uterine pathological condition. I have simply given the drug empirically to all patients who have come under my notice suffering from amenorrhœa, with expectant uncertainty. My immediate object is to submit my brief experience to the profession, in the hope that the experience of others may shortly test the potent or valueless influence of the drug in this particular derangement.

In cases of chloro-anæmia, subordinate to amenorrhœa, the drug appears to be of the most signal value, as I have invariably noticed that with the return of menstruation, or a discharge of blood from the vagina equivalent in effect, every symptom has rapidly subsided. The mere discharge of blood immediately following the administration of the drug will not, I suppose, be accepted by some as normal menstruation, but as a fictitious substitute; it must, however, be admitted that the practical value is established, when the discharge, be it vicarious or otherwise, is followed by the amelioration of the chloro-anæmia, which in reality constitutes the pressing ailment we have to contend with, rather than the mere absence of menstruation.

Whether santonin, or any other drug, is in a true sense a genuine emmenagogue is very doubtful, for if we regard menstruation as coincident with ovulation, and ovulation the periodic rupture of a Graafian follicle, we cannot expect the ovaries to assume this complex physiological process of definite periodic rotation at will; nevertheless, if a single dose of santonin will immediately reduce the apparently normal performance of the function, together with other consensual phenomena, when they have been dormant for several months, it is entitled to some further distinction in our Pharmacopœia than that of being simply a vermifuge. It would be necessary to accept a theory that ovulation could at a certain stage be temporarily suspended, and capable of being immediately accelerated under the influence of certain induced conditions, before we could acknowledge the action of santonin as a true emmenagogue.—*Lancet*, Sept. 5, 1885, p. 430.

## 112.—ON THE TREATMENT OF ANTEFLEXION OF THE UTERUS WITH STENOSIS OF THE INTERNAL OS.

By P. F. CHAMBERS, M.D., Assistant-Surgeon to the Women's Hospital, New York.

For the operation as performed by Dr. Thomas, a thorough examination is first made, and, if any pelvic inflammation is found, the operation is postponed till all traces of it have disappeared. Everything being in readiness, the bowels are well moved a few hours before, and a hot vaginal douche is given immediately before the operation is to be performed. The patient being etherised—



and, by the way, the operation should never be attempted unless an anæsthetic is given, for absolute quiet is necessary to enable the surgeon to exercise the most delicate touch and exactness—she is put in the Sims position, a Sims's speculum introduced, and the vagina thoroughly swabbed out with a sponge saturated in a solution of bichloride of mercury, 1 part to 1,000 parts of water. Throughout the operation thorough disinfection should be used. The uterus is then held firmly with a tenaculum, and the flexible silver probe is passed, in order to find the exact direction of the canal. The long, probe-pointed blade of the Sims knife being set at the right angle, it is passed through the constricted portion as the probe is withdrawn, and, on withdrawing it, a straight incision about 3 mm. in depth is made in an anterior direction through the stricture and external os. The blade is again introduced, but at an opposite angle, the incision made in the posterior direction to the same depth, and the process repeated two more times, cutting in the lateral directions, so that at the finish the stricture and cervical portion will have been cut in a cruciform manner, the four or more incisions being arranged radially around the canal. The next process consists in snipping off with a pair of scissors the four or more teat-like processes thus produced. A Peaslee's sound is then passed to see whether the stricture is thoroughly cut through, for, should there be the slightest obstruction to its free passage, the incisions are to be deepened.

We have now reached the last stage of the operation, viz., the introduction of the glass stem and stem-sustaining pessary. But, before proceeding, a word or two in description of these. The stem is of pure glass, 6 cm. long and 18 or 20 mm. in circumference, the size of a No. 18 or 20 male-sound (French scale), and slightly curved; the base is of the circumference of a twenty-five-cent. piece, but twice as thick and with rounded edges. The pessary is of hard rubber, in shape the same as an Albert Smith retroversion pessary; but fitted between the side-bars in the first curve is a shallow hard-rubber cup, of sufficient size to admit the base or bulb of the glass stem. The incisions in neither direction having gone deeper than 3 or 4 mm., no arteries are injured, and, as a consequence, the hemorrhage is trivial; but, such oozing as may have taken place having been washed away with the bichloride solution, the stem is inserted, and, this being held in position by Hunter's depressor, the pessary is readily introduced, so that, after removing the depressor, the base of the stem will just fit into the cup. The patient is moved from the table to the bed and kept there for ten days, and quietly on her back for the first forty-eight hours. Should no unpleasant symptoms set in, nothing in the way of treatment will be necessary but the free use of the hot vaginal douche of carbolised water, night and morning.—*New York Medical Journal*, May 2, 1885, p. 492.

## 113.—ON THE PROPER USE OF THE UTERINE STEM.

By ELY VAN DE WARKER, M.D., of Syracuse, New York.

If one contemplates the treatment of a case of uterine flexion by the stem, one question must first be answered: Is it a suitable case? There are many pelvic conditions that forbid the use of the instrument. One condition is very common, and is more frequently associated with flexions than with other uterine displacements. This is pelvic inflammation—pelvic peritonitis and cellulitis. For our purpose it is not necessary to make any distinction between them; they are one disease. Speaking generally, they contra-indicate nearly all uterine manipulative treatment: but, so far as the endometrium is concerned with this surrounding condition, it is forbidden ground. The same rule applies to the stem as well as intrauterine medication, or the introduction of the sound. The acute stage no one is liable to mistake; but in the chronic state, in which we have to contend with its products in the form of pelvic indurations and adhesions, the contra-indications are not always so clear. It needs at times a very careful touch to establish the fact of uterine adhesion, especially when elongated.

When we have to do with the non-suppurative products of inflammation, we must remember that we are dealing with a state not many removes from that condition itself. Therefore, so long as adhesions persist, we are in constant danger of a relapse, and nothing will do this so surely as uterine manipulation, especially that directed to the cavity of the organ. If I were to draw the line between the amateur and expert gynecologist, I should say that the former finds his methods attended with frequent complications, either primary or secondary, of pelvic inflammation, while the latter never has them. If, then, you find that the introduction of an intrauterine stem is followed by cellulitis, accuse yourself, or the form of the instrument, not the principle. You have mistaken your case, or failed in your manipulative tact.

Another class of women whom it is very difficult to treat with the intrauterine stem is the anæmic neurotic; and yet no class demands thorough treatment more urgently. Their pelvic organs are the seat of such active subjective symptoms, and the mental impressions will shift so quickly, that it will be difficult, if not impossible, to convince the woman that the presence of the instrument is not the cause of the pelvic distress. If a patient of this character should have a friendly interview with a physician, and if, with the delicacy and kind regard for the reputation of a medical *confrère* which is a leading trait of the profession, he were to inform her that the wearing of an intrauterine stem frequently proves fatal, you would find her at once to suffer such agony of mind and fear of death that you would have no alternative except removal of the instrument. Days,



and it might be weeks after, would be spent in reëducating her, so that the instrument could be borne with mental comfort. I mention this because I have had the experience, and to make clear to you that we have a mind as well as a flexed uterus to deal with.

In these anæmic cases we meet with instances of great hyperæsthesia of the pelvic organs. If present in intense form, it would amount to a contra-indication. Usually this condition may be treated in connection with the preparatory measures to be shortly described. Pelvic tumours of any form would forbid the employment of the stem. Lacerations of the cervix would require to be repaired before the use of the pessary; and lacerations of the perineum, if extensive, might interfere with the action of the vaginal retaining part to such an extent as to make it very difficult to keep the stem in place.

Some cases of flexions are attended with frequent, prolonged, and profuse menstruation, which ought to be treated before the use of the stem. Such a state may be the direct outcome of the flexion, due to a strangulation of the uterine wall, and for which the stem would be efficient treatment. Speaking generally, however, my first statement would be the safer one to follow.

Now, having a proper case to treat with the intrauterine stem, I always begin with preparatory treatment. This consists in the use of the uterine probe, or sound. I call it training the uterus, and by it I expect to establish a tolerance of a foreign body in the cavity. I first wisely adapt the curve of the sound to the uterine cavity, and then gently introduce it, making no effort to straighten or replace the uterus. The introduction, even when very gently accomplished, is sometimes attended with pain. I leave the sound in place for from five to ten minutes, and the pain usually subsides; if not, I remove it, and the next day, or the day after, I repeat the operation, and do so until I find that the pressure of the sound no longer excites any pain. When this result is reached, I regard my patient ready for the use of the stem. This training of the uterine cavity is a measure closely related to like manipulations in other departments of surgery. The laryngologist so trains the fauces to bear the pressure of the mirror, and the genito-urinary surgeon will in like manner relieve the hypersensitive urethra. I have good authority for carrying the analogy still further. Paul Dubois contends that the stem pessary relieves by modifying the abnormal sensitiveness of the uterine cavity, just as a sound cures neuralgia of the neck of the bladder; while Malgaigne cites the case of a woman who was suddenly relieved of pain by the stem, the flexion being uncured. To those who have had considerable experience of the intrauterine stem, these cases are not unusual.

In some cases, by no means rare, it is not necessary to train the cavity, as the organ exhibits no intolerance of the instrument. The state of primary tolerance is usually found in long-standing cases.

of acquired flexions. The developmental flexion in young and nervous women requires the most careful preparatory treatment. This employment of the sound or probe serves another very useful purpose. It is very sure to correct any error you may have made in regard to pelvic conditions unfavourable to the use of the stem. Other complicating conditions attending the flexion may be treated on the principles already laid down. Since the publication of Dr. Mundé's paper on lymphadenitis, in the *American Journal of Obstetrics*, I have been able to recognise several cases of acute adenitis in the parametrium in connection with flexions of the organ. I am strongly of the opinion that this complication ought to be treated before the introduction of the stem.—*Philadelphia Medical News*, Feb. 21, 1885, p. 199.

#### 114.—CONSTRUCTION OF THE UTERINE-STEM-PESSARY.

By ELY VAN DE WARKER, M.D., of Syracuse, New York.

An intrauterine stem must be made with reference to a few principles which I believe to be unalterable. First, the stem must be shorter than the cavity of the uterus, and so small in diameter that neither the outer nor inner os is stretched or occluded. Secondly, it must be supported wholly from within the vagina. Thirdly, the retaining part must be of such a size that it will not interfere with the action of the bladder or rectum, or with the comfort of the patient; and lastly, the retaining part must be of such a form and so adjusted to the vagina that it will not restrict the normal uterine mobility. In order to comply with the latter condition, we cannot limit ourselves to any one form of the retaining part. It is sometimes a difficult problem to solve so to adjust the retaining part to the vagina, that the stem is held securely in place while the uterus is not fixed immovably within the pelvis. The expulsive power of the uterus is, in some cases, considerable, and this power is usually exerted during menstruation, when you are most anxious to keep the instrument in place. I have never yet failed to accomplish this, but in doing so I have invented quite a variety of vaginal attachments. In some cases it is better to re-adjust the instrument when it becomes displaced than to make the retaining part too secure, as in the latter the freedom of movement of the uterus may be too much restrained.

Anteflexion, like all forward displacements of the uterus, is the most difficult to replace and retain comfortably in position. The vaginal part differs materially from that of the retroflexion form. The idea was borrowed from Amann, but in his form of the instrument the vaginal attachment was rigidly attached to the stem, and the instrument was made to act in both forms of flexions by wedging cotton behind the vaginal flange in anteflexion, and before it in retroflexion. In my modification the flange impinges against



the posterior vaginal wall, and serves to correct excessive version. Fig. 1 shows the ordinary form of the ante flexion flange.

Fig. 1.

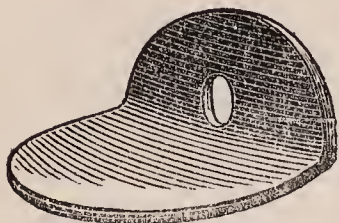
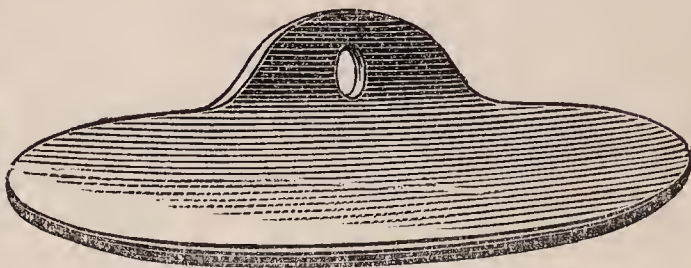


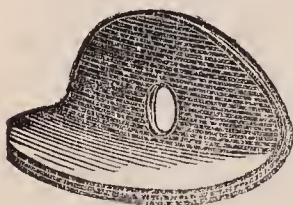
Fig 2



In Fig. 2 we have the same form modified so as to meet the difficulties offered by a short and very capacious vagina.

The scant dimensions of the vagina of the virgin required a further change in form, which is shown in Fig. 3. These cuts are taken from flanges that have been used, and were invented specially

Fig. 3.



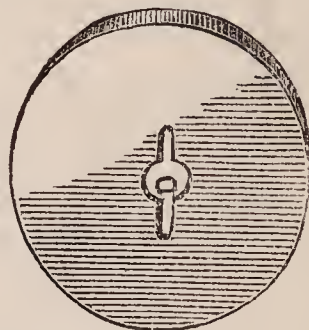
for each case. I have said that this idea was borrowed from Amann; I ought to have said, however, that I had devised the ante flexion flange before I had seen his book, *Zur Mechanischen Behandlung d. Versionem u. Flexionen d. Uterus*, and that his published account antedates my own.

The retro flexion flange is a simple button-like attachment (Fig. 5). It is passed over the end of the stem (Fig. 4) by means of a wire passed into the end of the stem. This attachment is

Fig. 4.



Fig. 5.



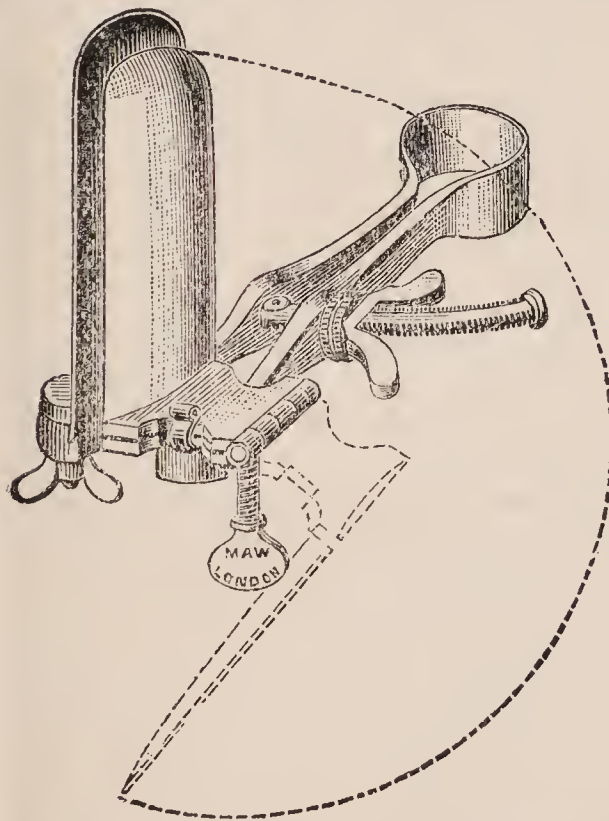
also made of various sizes to meet special difficulties. Tiemann and Co. make them for me. The latter form has large fenestra cut out of the solid portion, which gives the flange superior retaining power over the solid form, and affords ready exit to the secretions of the cervix. This form generally converts a retro flexion into a retroversion, but after years of work with this instrument, I have come to the conclusion that this is better than further to complicate the instrument by attachments to correct the resulting version. This can be better done after three or four months, when it is no longer necessary to wear the stem, by an

ordinary pessary with the proper curve. In these cases we must not attempt too much, but be satisfied with making progress slowly. Patience and gentleness of manipulation must be cultivated as an art by the physician who aspires to treat uterine flexions successfully. It will happen now and then that the flange and stem will get displaced. The remedy is a very simple one—replace them, remembering that if a stem is so securely held in place by the vaginal attachment that it cannot become displaced, it is probably too good a “fit,” and the patient cannot wear it.—*Philadelphia Medical News*, Feb. 21, 1885, p. 200.

### 115.—ON A NEW OPERATION SPECULUM.

By Dr. ALEX. DUKE, Physician to Stevens's Hospital, Dublin.

The woodcut represents an instrument designed for use in operations on the vaginal walls, os, and cervix uteri. It is the only bivalve speculum with which I am acquainted which will give as much room at the vaginal outlet as at the vaginal roof, and allow the operator to both touch and see the os and cervix.



The blades being arranged at right angles with the handle (which opens by spring action, released by screw), the exact amount of expansion necessary to expose the os and cervix can be attained without pain to the patient, the blades lying parallel in the passage, one of which can be made to divaricate, so as to compensate for the pressure of the vaginal walls above, and, if necessary, stretch the vaginal roof to its full extent, and give an insight into the os itself.

The divaricating blade makes the instrument self-retaining; and as both blades rotate, it can be introduced

and fixed in any position in the vagina, antero-posteriorly or laterally.

For portability of carriage, one blade can be removed, and the other folded over on handle, so that a small box will contain all. The makers are Messrs. Maw, Son, and Thompson, Aldersgate-street.—*British Medical Journal*, June 13, p. 1205.



## 116.—HOW SIMS' SPECULUM OUGHT TO BE HELD.

By SKENE KEITH, M.B., C.M., F.R.C.S.E., Samaritan Free-Hospital, London.

Dr. Sims has described in his book on *Uterine Surgery* the position in which the patient ought to be placed when his speculum is used, and his directions are usually reproduced in works on diseases of women. Scarcely anyone has thought it worth while to give the assistant any instructions about how he is to hold this speculum, and a few even appear to allow that it may be held by the gynecologist himself. Dr. Sims says that the assistant "holds it firmly in the desired position," and this is about as much information as is given in most works. One or two writers advise that traction be made to the right of the coccyx, so as to raise the upper buttock. The assistant is usually told to hold the speculum by the centre, and draw back the perineum; very much fuller directions ought to be given, not only for his own but also for the operator's convenience.

In the Women's Hospital, New York, Sims' speculum is held in this way by a nurse, who has been in the habit of holding it at all the operations there for years, and she holds it better and longer than most people will do who hold it by the centre. For one winter I scarcely ever missed an operation there; and whenever the speculum had to be held for a long time, say three-quarters of an hour or longer, I observed that this nurse would occasionally take advantage of any chance to stretch her fingers.

The objections to this way of holding it are that most assistants will soon require to have a rest and stretch their fingers, and often do so when they are most wished to keep the whole of the vagina well in view. There is also a constant tendency to project forwards the tip of that blade which is inside the vagina so much that even the cervix uteri may be hid from view.

Before coming to the consideration of how the speculum ought to be held, we must first arrange who is to hold it. An intelligent nurse, able to follow the steps of an operation, is much the best person to employ. It will usually be found that a doctor or a student is the worst, for either of them wishes to see how the operation is getting on, and every time he looks into the vagina he allows the speculum to go forwards, and then most likely gets his head in front of the operator. The nurse must stand at the patient's back, but much nearer the operator's end of the table than she is usually told to do. She must not grasp the speculum by the central part, but by the external blade, the fingers coming round the convex part and the thumb fitting naturally into the concavity at the bend. She must not be told to draw the perineum backwards and upwards, *i.e.*, towards the patient's head, but to pull backwards and slightly downwards away from the patient's head,

steadily, and without the very slightest jerk. By traction in this direction the pelvic floor is opened up exactly in the way in which Dr. Hart has described that it is done in labour. This method of holding Sims' speculum and of opening up the pelvic floor was shown to me by Professor Skene, of Brooklyn, before I had read this explanation of how the perineum acts during parturition. If the child's head is able to gain most room for itself by opening up the pelvic structures in this manner, it is at least probable that we shall be able to gain most room for operating by imitating the natural process as nearly as we can. The nurse's elbow must be kept close in to her side. Whenever possible the table should be of such a height that it will allow of the elbow being a few inches higher than the orifice of the vagina. This arrangement allows of direct traction—the nurse's forearm and the central or connecting part of the speculum being in one line.

The reason for objecting to the speculum being employed to raise up the right buttock is, that during an operation on the cervix uteri no one ought to wish the speculum to be held exactly in the same place all the time, unless one is using a specially large one. The nurse ought to be able to follow the steps of the operation, and when the operator is at work, either on the lower or on the upper side of the cervix, she should, without having to be told, turn the speculum slightly, so as to keep the orifice of the vagina well out of the way. Very slight change in position is all that is required, so slight, in fact, that it is not every assistant who can appreciate the advantage to be gained. I have held Sims' speculum in this way for fully an hour without feeling the fingers of my right hand cramped or tired in the slightest degree. To do this you must hold the speculum by the outside blade, not by the centre, you must keep your elbow close to your side, and you must have the patient so arranged that your elbow is on the same level—or a few inches higher than the orifice of the vagina. The advantages gained for the operator are—that the nurse can more easily move the internal blade while she at the same time holds the instrument more steadily; and that the upper part of the vagina is opened up as fully as it can be, and the perineum with the speculum is kept best out of the way. Some people seem to think that the first thing to do after exposing the cervix uteri is to fix a tenaculum into it and draw the uterus down. This cannot be safe whenever there is the slightest inflammatory state in the pelvis, and more than this, it is useless certainly when operating. Every one knows that the upper part of the vagina is the largest and the orifice the narrowest portion. Sims' speculum takes advantage of this condition, yet, in spite of this fact, operations are often performed on the cervix uteri after it has been pulled down to the narrowest and most inconvenient part to which it can possibly be dragged. With instruments, whose handles are

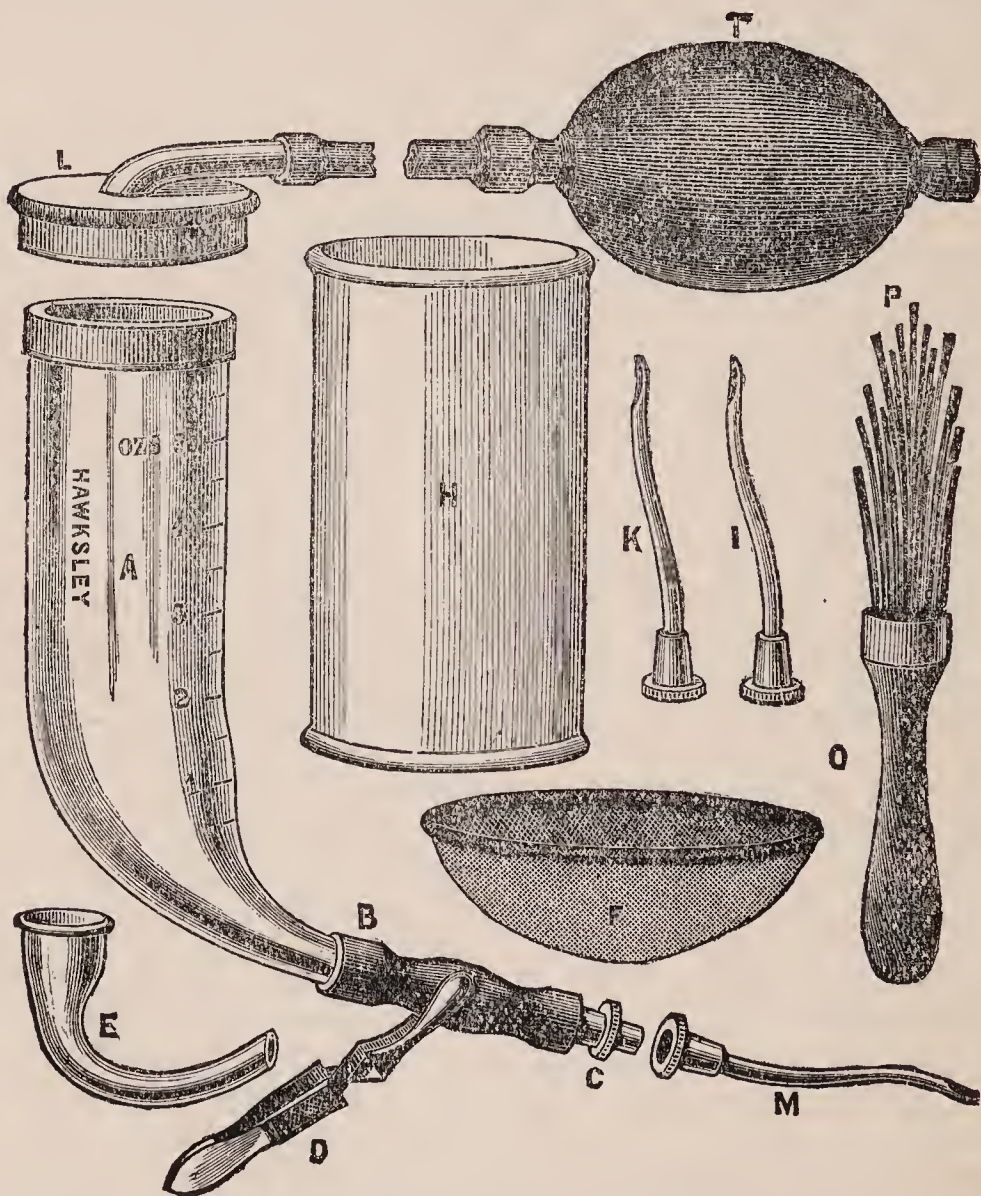


long enough, it is much more easy to operate on the cervix at the upper part of the vagina than after it has been drawn to the vulva. —*Edinburgh Medical Journal*, June 1885, p. 1103.

# 117.—ON AN INSTRUMENT FOR THE TRANSFUSION OF DEFIBRINATED BLOOD.

By T. W. CARMALT JONES.

This instrument is intended to be used for transfusing defibrinated blood. It could be equally well used for injecting milk or any other fluid into a vein. It consists of a holder (A), into which the defibrinated blood is to be poured; a tight-fitting metal cap



- H. Vessel marked in ounces for donor to be bled into. P. Whip to be used in H. F. Strainer of lawn muslin on wire frame. A. Holder to receive defibrinated fluid. B. Indiarubber tube about three inches long. C. Coned plug (hollow). D. Clip. L. Metal cap for A. T. Hand-ball. M. Nozzle. K, I. Additional nozzles. E. Blood director.

(L), in the centre of which is a hole, a pipe leading from this hole communicates by means of an indiarubber tube with a valved handball (r). When the cap is in position on A, air can pass easily to A, but pressure on the handball will force air into A and compress it on the surface of the fluid in A. At the lower end of A is a piece of indiarubber tubing (B), which can be compressed by the clip D, and at the other end of the tubing is a hollow coned metal plug (c), which fits into the silver nozzle (M). The instrument with its accessories, as supplied in the case, provides all that is required for the performance of the operation of transfusion of defibrinated blood, with the exception of a clean ordinary tumbler, or, preferably, a small milk-jug, and a basin of hot water. The steps of the operation are as follows. 1. Bleed the donor, in an adjoining room if possible, to five or six ounces into the measured vessel (H). 2. Whip the blood with the whip (P), and strain through the strainer into the tumbler or milk-jug. 3. See that the indiarubber tube (B), plug (c), and clip (D) are in place. Pour the defibrinated fluid into the holder (A), and put the cap (L) on firmly, then place the holder in the basin of water at 100° F. 4. Open a vein in the patient's arm, and insert the silver nozzle (M, K, or I)—three sizes of nozzles are provided—and block up the open end of the nozzle with the finger. Have the holder brought to you; ease the clip until the fluid flows out of the plug, then tighten the clip again, take the finger away from the end of the nozzle, and insert the plug and remove the clip. Note the height of the fluid in A. The fluid in the holder is now in free and direct communication with the blood in the patient's vein. If any force is required, squeeze the handball gently. 5. After the operation is over, again note the height of the fluid in A, remove the short piece of indiarubber tubing (B) and burn it. The other parts can then be easily and thoroughly cleaned.

The instrument is very simple in action, has no delicate or complicated parts that can get out of order so as to cripple it, has no taps to puzzle the operator, and can be thoroughly cleaned and inspected. Supposing anything were to happen to the handball, an assistant could supply all the force required by blowing, though not so conveniently as by the handball. The piece of indiarubber tubing at B is to be a clean new piece each time the instrument is used, and is to be burnt directly after use, so that no danger may arise from dried blood not removed after previous use. The inside of indiarubber tubing is rough and not easily cleaned, and cannot be inspected to see if it is clean. This piece of tubing allows sufficient play and breaks the rigidity, but is purposely kept short. The amount of blood taken from the donor and the exact amount injected into the patient will be known. The instrument is made for me by Mr. Hawksley, of Oxford Street, to whom I am indebted for several practical suggestions.—*Lancet*, April 25, 1885, p. 745.



## ADDENDA.

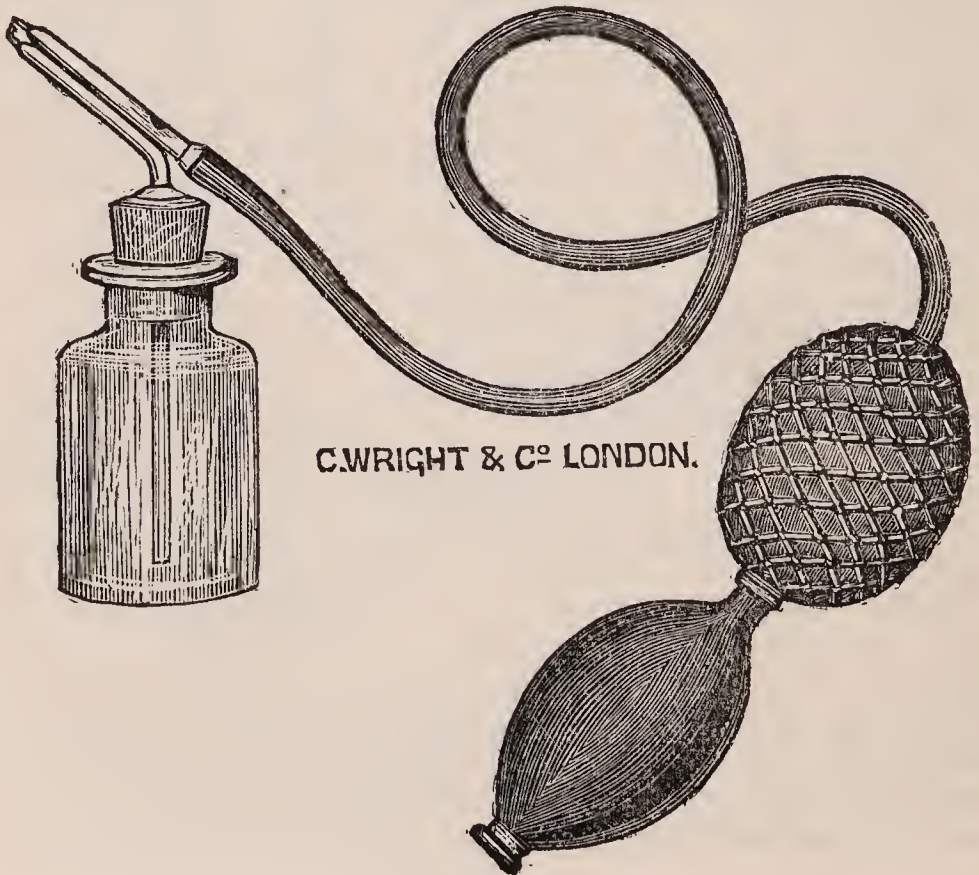
### 118.—ON A COCAINE SPRAY PRODUCER.

By H. PERCY DUNN, F.R.C.S., Assistant Ophthalmic Surgeon to the West London Hospital.

As the use of a spray producer undoubtedly commends itself in regard to the employment of cocaine in surgery, I have just devised an apparatus which, by the introduction of certain modifications upon the usual type, will be found to meet the requirements of the case in question.

In the first place, cocaine is a drug the universal use of which is somewhat curtailed by its expensive nature, consequently every drop of a cocaine solution has some significant value; further, the mission, so to speak, of cocaine when applied to a part is eminently a pacific one, and is in all respects different from the germ devastating, germ murdering objects of the gross carbolic spray, which with this purpose in view can be discharged over a wound with no inconsiderable velocity. Having therefore prefaced the description of the new spray producer by these remarks, the significance of the points to which I will now draw attention will be more readily understood. From the accompanying illustration will be gathered the general appearance of the apparatus, and it is therefore only necessary to refer to its special features.

The spray producer is made of silver, and the jet is as fine as it has been possible to produce; it plays softly over a part without



C. WRIGHT & CO LONDON.

spluttering, and is so constructed as to act upon the eyeball without inconvenience to the patient. In the ordinary sprays the air contained in the reservoirs has only one means of exit—namely, through the jet. One of the results of this is the waste of some of the solution, inasmuch as the spray continues to act until the air is exhausted in the reservoir. In order to counteract the waste, which in the case of cocaine would represent something in the end worth saving, a small aperture has been made in the air-tube which while the spray is in use can be kept covered by the thumb. As soon, however, as the spray is no longer required, the thumb is removed, the air at once escapes through the opening, and simultaneously the action of the jet is arrested. This contrivance obviates all dropping of the solution, and at the same time renders the spray exceedingly handy in the matter of regulating its action.

The cocaine spray has proved useful in all ophthalmic operations, and for all operations upon mucous membranes. In the removal of hæmorrhoids, for instance, the assistant could keep the part in an anæsthetic condition by an occasional spray while the surgeon without interruption carried out the various details of the operation. Again, in general surgery, it might be equally useful; for instance, in herniotomy, ligature of arteries, and other operations of this nature. The difficulty, however, is to obviate the pain of the first incision through the skin; but this having been overcome or ignored, a sufficiently strong solution of cocaine sprayed over the exposed surface of the subcutaneous tissue would render the operation painless throughout the rest of its course, and for this reason practicable without the employment of a general anæsthetic.

The spray producer can be procured of Messrs. C. Wright and Co., 108, New Bond Street, who have made it at my suggestion.—*Lancet*, June 13, 1885, p. 1080.

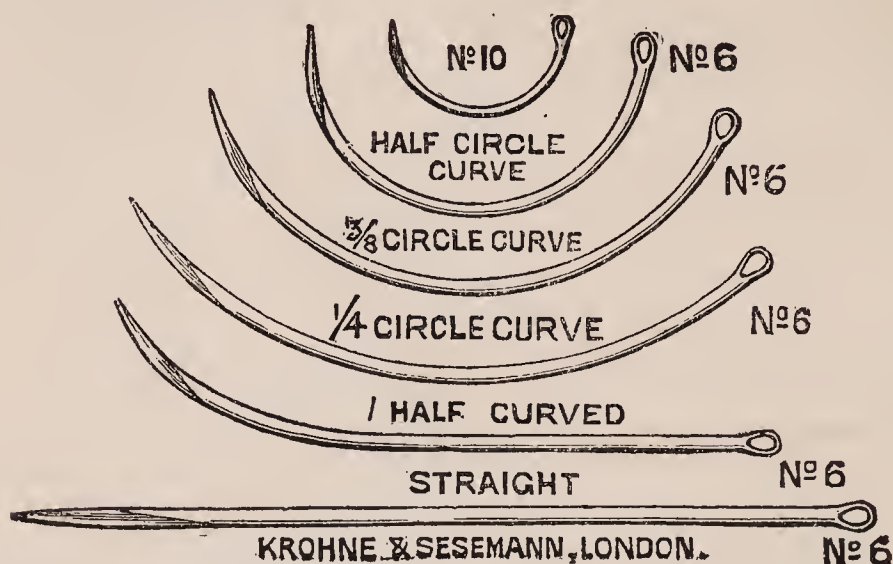
#### 119.—DR. HAGEDORN'S NEEDLES AND NEEDLE-HOLDER.

The kind of needle in general use has a stem, the section of which forms either a circle or an oval. It is flattened at the inner side of its curve, so as to form a broad double edge, which is transverse to the curve and terminates in a point. Hence, when used for the introduction of a suture by the side of a wound, it makes a puncture, or rather, a small vertical incision, parallel with the direction of the wound. On tying the suture, the inner margin of this incision is dragged inwards towards the wound; so that an elliptical, or even triangular, gap is formed at the site of the puncture, which may be slow to heal, and sometimes causes a small fistula. The point of the old kind of needle, flattened on its concave side, is weak and apt to deviate from its intended direction in tough or hardened tissues.

On the other hand, the stem of Dr. Hagedorn's needle forms an oblong parallelogram on section. It is of equal width and thick-



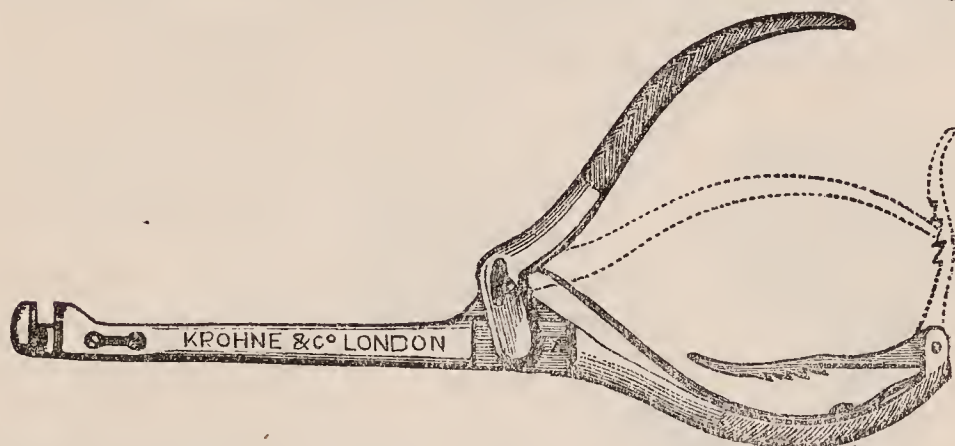
ness throughout its entire length, and is curved on its axis, with its short cutting edge on its convex side near the point. This edge is about three times the width of the needle. The curve of the needle forms a semicircle.



Being curved on the edge, this needle is more resistant than the older form, and the point follows, without deviation, the intended direction of the puncture. The eye perforates the flat side, so that it can be made larger and more tapering at the terminal end, in consequence of which even a stout double thread will pass without difficulty through the puncture. The needle is of equal thickness throughout, so that it can be firmly grasped by a holder at any point, whereby its direction will be much facilitated, without any fear that it may be broken. The cutting edge is on the convex side, and cannot be injured or blunted by the needle-holder, and may readily be resharpened. Owing to the form of the needle, the incision which it makes is not vertical, but horizontal, and, therefore, at a right angle to the edge of the wound, so that the two edges of the stitch-wound, on tying the suture, are drawn into close apposition. These needles cause less injury to the tissues than the older form, which is of high importance, especially in sutures of nerves and tendons.

As there are operations where a shallow-curved, or even a straight, needle is required, Messrs. Krohne and Sesemann, of Duke Street, Manchester Square, make five different forms (see Fig. 1), of which they are ready to supply sample-cards containing graduated sizes, beginning at the largest, No. 1. In Fig. 1, Nos. 6 and 10 (the smallest) are represented. Dr. Hagedorn has contrived a needle, with a round point, for intestinal sutures. The smaller sizes, with short cutting points, are well adapted for operations on the eye; and the above-named instrument makers also supply a stouter and a thinner form of needle, useful in plastic operations on the female organs.

Dr. Hagedorn has also invented a needle-holder, which can grasp the needle firmly without any risk of breaking it. The needle can be seized or disengaged with equal readiness; and its point, after having passed through the tissues, can be taken hold of without injury to itself or to the surrounding soft parts; being guarded by the jaws of the needle-holder. It consists of a steel-rod, ending in a



handle, upon which a similar shorter rod is made to glide up and down. Both rods form, at a right angle to their anterior termination, the jaw, which is lined with copper. The up and down movement of the rods is effected by a lever handle, held in position by a movable screw. A ratchet on the lower part of the handle serves for fixing the needle. The first tooth on the ratchet will fix a stout needle, the second and the following third tooth finer needles. A slight pressure with the little finger on the ratchet will easily release the stop, and set the needle free. In using it, the needle-holder is held in such a position that the little finger is near the ratchet, ready for releasing its hold by slightly pressing against it. Care must be taken that the needle is placed in the longest diameter of the jaw, with the inner curve close to the stem of the fixed rod. Only when the needle has been grasped in this manner will its perfectly firm position be secured. This needle-holder, which takes up but little room, will, after a little practice, be managed with the greatest facility. It is made of several sizes and strengths. Two kinds are especially made for gynecologists, one with a rectangular, and another with an oblique jaw.

Dr. Hagedorn's needles and holder have been employed for plastic and abdominal operations at the Samaritan Free Hospital, by Drs. Bantock and Percy Boulton, with the most satisfactory results. Professors Bardeleben, Fritsch, Olshausen, and other continental authorities, have spoken and written in high favour of these new contrivances. Easy introduction and extraction of the needle during the application of sutures, and the least possible amount of damage to tissues, are matters of the greatest importance in plastic operations; Dr. Hagedorn's needles and needle-holder fulfil all these requirements.—*British Med. Journal*, May 2, p. 899.



## 120.—NEW TRACHEOTOMY TUBE.

The tracheotomy tube, illustrated below, is the outcome several experiments made by Messrs. Salt and Son of Birmingham.

The alterations of the old model are inconsiderable in extent, but, practically, they make all the difference between comfort and discomfort to the wearer.

In the old instrument (fig. A) two wire loops project considerably from the neck in a lateral direction; in the new one (fig. B.)

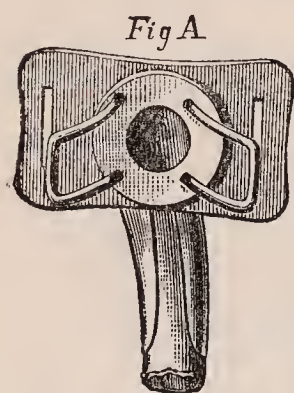


Fig A

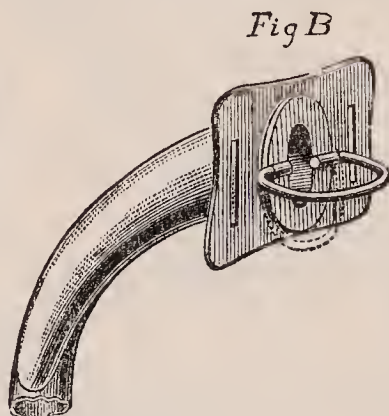


Fig B

a single loop is made to serve the same purpose, and is hinged horizontally, so that, when not in use for the withdrawal of the inner tube, it lies flat against the flange, and neither impedes the application of the finger to close the aperture during speech, nor interferes with the

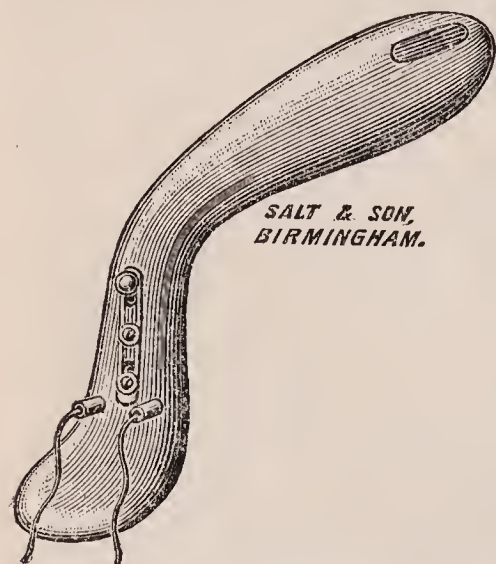
SALT & SON BIRMINGHAM.

convenient adjustment of the necktie.

## 121.—ELECTRIC ILLUMINATORS FOR THE VARIOUS CAVITIES OF THE HUMAN BODY.

The application of Electricity for illuminating purposes, in the practice of Surgery is not of recent date, but the modes employed, and the instruments connected therewith, have been hitherto cumbersome and inconvenient, either involving the use of a battery of large and awkward size, or obstruction of the surgeon's view and manipulation by the interposition of bulky reflectors or other adjuncts.

In the instrument under notice this difficulty has been overcome by the provision of a small incandescent Lamp of inappreciable size, so arranged as to emit its light at the further end of the speculum, tongue depressor, or other instrument employed, where alone it is required. This method is fairly shown by the annexed drawing, which is of a celluloid Tongue Depressor, wherein the conducting wires, and half the thickness of the lamp, are sunk within the substance of the instrument.



SALT & SON,  
BIRMINGHAM.

The same plan, modified in details according to circumstances, may be adapted to any form of speculum.

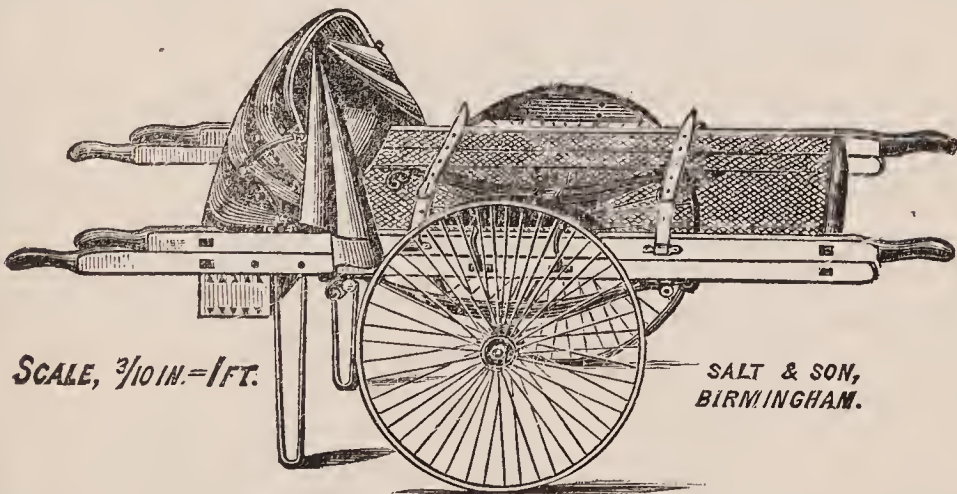
The electric current takes its source either from a portable battery of convenient size, and of considerable duration, or from an accumulator charged from a constant-current battery, either personally or by the maker, and which can easily be carried in the pocket. We are informed Messrs. Salt and Son have patented the invention, the price of which is moderate.

## 122.—NEW AMBULANCE STRETCHER FOR PORTERAGE AND ON WHEELS.

This stretcher, which has been constructed by Messrs. Salt & Son of Birmingham, in accordance with designs furnished to them by Mr. Tozer, Superintendent of the Fire-Brigade in that town, is made in two forms, and is intended for the removal of injured persons in cases of accident, and appears both convenient and cheap.

The Simplex Hammock Stretcher, as it may be called, is of plain construction; the method of opening and closing being very simple and efficient. Its dimensions are 7 ft. 6 in. long, and 23 inches wide; and its weight 18 lbs.

The Larger Model Stretcher (see engraving) is similar in design, but is made to fit on a low trolley or hand carriage with easy springs and folding hood (whereon or wherefrom it can be lifted independently) mounted on rubber-tired wheels—similar to those used for tricycles, and so light that with its load it can easily be pushed by one person.



At the rear of the ambulance is a small chest, fitted with tourniquets, lint, bandages, plaister, and other small articles needful for emergencies in the absence of skilled surgical assistance.

Attached to each apparatus will be a clearly printed card, drawn up by an experienced ambulance surgeon, for the guidance of those nearest at hand in cases of accident.

Suitable straps are provided for the restraint of intoxicated or violent patients during removal, and we think that, in one form or the other, the stretcher will be found serviceable in hospitals, police, and fire-brigade stations.



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